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HOPS 1970/71



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Hops 1970/71

While for many years no solution was in sight for the existing political problems, there are indications now which would point to an easing of tensions, namely the reduction of U.S.-engagement in Vietnam, the cautious approachment in the Middle East, and the negotiations regarding the future status of Berlin as the key to a possible normalisation in Europe.

**Political
Situation**

The continuous economic boom reached its culminating point in Europe and Japan in the middle of 1970, during which the U.S. was still struggling to overcome a period of economic slow-down. This development was accompanied by the highest wage and price increases since 1950/51. The U.S. became the leader in decreasing interest costs, while Europe followed reluctantly early in 1971. The inflow of U.S.-Dollars increased so rapidly that the German Bundesbank discontinued to intervene in the foreign exchange market and floated the D-Mark freely so that it would find its own exchange rate. By this action, the authorities avoided a new revaluation of the D-Mark. Belgium and the Netherlands also adopted these measures but Switzerland revalued outright by approx. 7 % and Austria by approx. 5 %.

**Economic
Situation**

In the **Federal Republic of Germany** the real economic growth rate of 5 % was less than in the previous year. The cost of living index increased by 4 % compared with 1969. The foreign trade balance resulted in a surplus of DM 15.7 billion (1969: DM 15.6 billion), while the balance of payments showed a surplus of DM 22.6 billion compared with a deficit of DM 14.4 billion in 1969. The discount rate which had reached its highest point on March 6, 1970 with 7.5 % was gradually reduced and has remained unchanged at 5 % since April 1st, 1971. In view of obligations entered with the other countries of the Common Market a quick return to firm parity exchange rates is highly desirable.

World beer production in 1970 showed an increase of about **21.3 million bbl.** = 4.1 % compared to 1969. The rate of growth reads as follows: Western Europe + 3.6 %, Eastern Europe + 6.3 %, North America + 2.1 %, Central and South America + 2 %, Africa + 16.9 %, Asia + 7.9 %, Australia and Oceania + 5.4 %.

**Production of
Beer**

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 Liter = 26.42 gall. = 0.8523 bbl. (USA)	1 bbl. (USA) = 31 gall. = 1.1734 hl
	22.01 gall. = 0.6114 bbl. (Brit.)
	1 bbl. (Brit.) = 36 gall. = 1.6356 hl
1 kg = 2.20462 lbs.	1 lb. = 0.45359 kg
1 metr. ton = 20 Ztr. = 1000 kg = 1.10231 shorttons = 0.98419 longtons	
1 Ztr. = 50 kg = 110.23 lbs. = 1.102 cwt. (USA)	1 cwt. (USA) = 100 lbs. = 45.36 kg = 0.9072 Ztr.
	0.984 cwt. (Brit.)
	1 cwt. (Brit.) = 112 lbs. = 50.8 kg = 1.016 Ztr.
DM 1,— = US \$ —.27 / DM 3.66 = US \$ 1,— / US	2.40 = DM 8.78 = £ 1.00
Conversion of thermometer degrees in Fahrenheit and Celsius:	
$86^{\circ} F = \frac{(86 - 32) \cdot 5}{9} = 30^{\circ} C$	$30^{\circ} C = \frac{30 \cdot 9}{5} + 32 = 86^{\circ} F$

Production of Beer 1970

Country	1000 bbl. of 31 gall. each	Country	1000 bbl. of 31 gall. each
Germany W.	74,186	b.f.	5,703
East	13,806	Zambia	793
England	46,971	Nigeria	749
USSR*)	33,833	Angola	654
Czechoslovakia	18,048	Cameroons	598
France	17,262	Algeria	515
Belgium	11,315	Rhodesia	366
Spain	10,487	Tanzania	358
Poland	8,607	Morocco	342
Netherlands	7,415	Ruanda-Burundi	314
Austria	6,355	Mozambique	300
Denmark	6,282	Ethiopia	273
Jugoslavia	5,680	Uganda	273
Italy	5,058	Ghana	267
Ireland	4,329	Ivory Coast	243
Hungary	4,268	Egypt	197
Switzerland	4,051	Tunisia	163
Roumania	3,728	Congo Brazzav.	129
Sweden	3,656	Gabun	94
Bulgaria	2,728	Centralafric. Rep.	87
Finland	1,930	Togo	81
Norway	1,289	Madagascar	78
Portugal	894	South West Africa	77
Greece	738	Dahomey	68
Luxembourg	449	Sudan	66
Malta *)	30	Senegal	64
Iceland	18	Upper Volta	50
Europe		Liberia	34
		Guinea	15
	293,413	Other Countries	93
U.S.A.	121,859	Africa	
Canada	13,170	Japan	25,354
Mexico	12,237	Philippine Islands	2,983
Brazil	9,801	Vietnam	1,267
Colombia	6,133	China *)	1,023
Venezuela	3,646	South-Korea	798
Argentina	2,901	Taiwan	575
Peru	2,107	Malaysia	562
Chile	1,602	Turkey	378
Puerto Rico	974	Singapore	320
Cuba	853	Thailand	307
Uruguay	690	Israel *)	234
Ecuador	588	India	213
Panama	324	Hongkong	179
Jamaica	306	Iran	171
Dominican Republic	302	Indonesia	150
Guatemala	285	Okinawa	123
Bolivia	281	Cyprus	78
Nicaragua	219	Ceylon	77
Honduras	187	Lebanon	72
El Salvador	170	Iraq *)	64
Trinidad a. Tobago	141	Pakistan	27
Paraguay	139	Syria	21
Costa Rica	124	Asia	
Martinique	17	Australia	13,402
America		New Zealand	2,856
		Tahiti	68
Congo-Kinshasa	2,861	Australia/Oceania	
Rep. of South Africa	2,011	Total	16,326
Kenya	831		536,815
c.f.	5,703		472,469

*) = estimate

Crop 1969 (Supplement)

Complete figures of imports and exports of hops, crop 1969 during the period of September 1st, 1969, to August 31st, 1970, can now be stated as follows:

	Import	Export
Germany	11,650,209 lbs.	19,047,193 lbs.
Belgium	3,604,080 lbs.	3,255,092 lbs.
England	2,399,156 lbs.	1,675,386 lbs.
U. S. A.	11,032,700 lbs.	12,246,994 lbs.
France	2,668,448 lbs.	3,134,721 lbs.

Crop 1970

While the world beer production shows a rather equal increase during the past ten years, regardless of various political and economic crises, the hop production remained practically the same since 1963, except from unavoidable annual fluctuations. In 1968, the demand of the brewing industry exceeded the harvest, but did not result in a price increase because the breweries had built up sufficient stocks in previous years, mostly in refined products. These reserves were gradually exhausted so that a diminution in offers was predicted for the 1970 crop. In expectation of this development a general price increase for forward contracts started with the end of 1969, which brought considerably higher prices for the crop year 1970 alone until August 1970. Nevertheless stronger price increases did not manifest themselves on the world market, owing to the record crop of 1970 which closed the gap of existing demand.

**Market
Survey**

The **Federal Republic of Germany** was able to increase its share of the world hop production to 26 % (1969: 24 %). The abundant offer of aroma and bitter hops as well as the assortment of refined products constituted a good basis for the quick turnover of the crop 1970.

The **US-crop**, almost entirely tied up by long-term contracts was also sold without difficulty. There were also still purchasers for hops crop 1970, retained in the Reserve Pool, after the clearance of the European market.

Since the crop 1970 of the **East European hop producers** was also sold out, there are no large supplies on the world market to be transferred into the new season.

The 1971—76 **contract market** was marked by a certain scarcity, especially for the 1971 harvest, as well as in smaller measure for 1972. For the following years the market can still be well supplied. The general increase of production costs which started in 1970, will also express itself in the contract prices because the producers cannot continuously tie up their harvest with unsatisfactory prices.

**Bitter Values
of Crop 1970**

Origin	Total resin content	Hexane-soluble %	α-acids %		β-acids %		Hard resins %		Bitter value Wöllmer		
									1970	1969	
Hallertau	15.70	13.20	84.1	5.40	34.4	7.80	49.7	2.50	15.9	6.3	5.7
Hallertau/North. Brewer	21.00	18.20	86.7	9.80	46.7	8.40	40.0	2.80	13.3	10.7	10.1
Spalt	15.60	13.20	84.6	5.30	34.0	7.90	50.6	2.40	15.4	6.2	5.6
Tettwang	15.50	13.20	85.2	5.50	35.5	7.70	49.7	2.30	14.8	6.4	6.0
Hersbruck	15.50	13.20	85.2	5.40	34.8	7.80	50.4	2.30	14.8	6.3	5.6
Alsace	13.80	11.60	84.0	4.90	35.5	6.70	48.5	2.20	16.0	5.6	5.1
Belgium/Brewers Gold .	16.60	14.10	85.0	6.20	37.4	7.90	47.6	2.50	15.0	7.1	6.9
Saaz	14.10	12.00	85.1	4.80	34.0	7.20	51.1	2.10	14.9	5.6	5.4
Jugoslavia/Styria . . .	14.20	12.00	84.5	6.70	47.2	5.30	37.3	2.20	15.5	7.3	6.9
Jugoslavia/Backa . . .	15.80	13.40	84.8	5.50	34.8	7.90	50.0	2.40	15.2	6.4	6.4
Yakima Seedless . . .	17.70	15.50	87.6	7.20	40.8	8.30	46.8	2.20	12.4	8.1	8.0

The figures of the above table refer to bitter value (as is, alpha evaluated conductometrically) only in the beginning of the season and will not hold good for the judgement of supplies in the later part of the year.

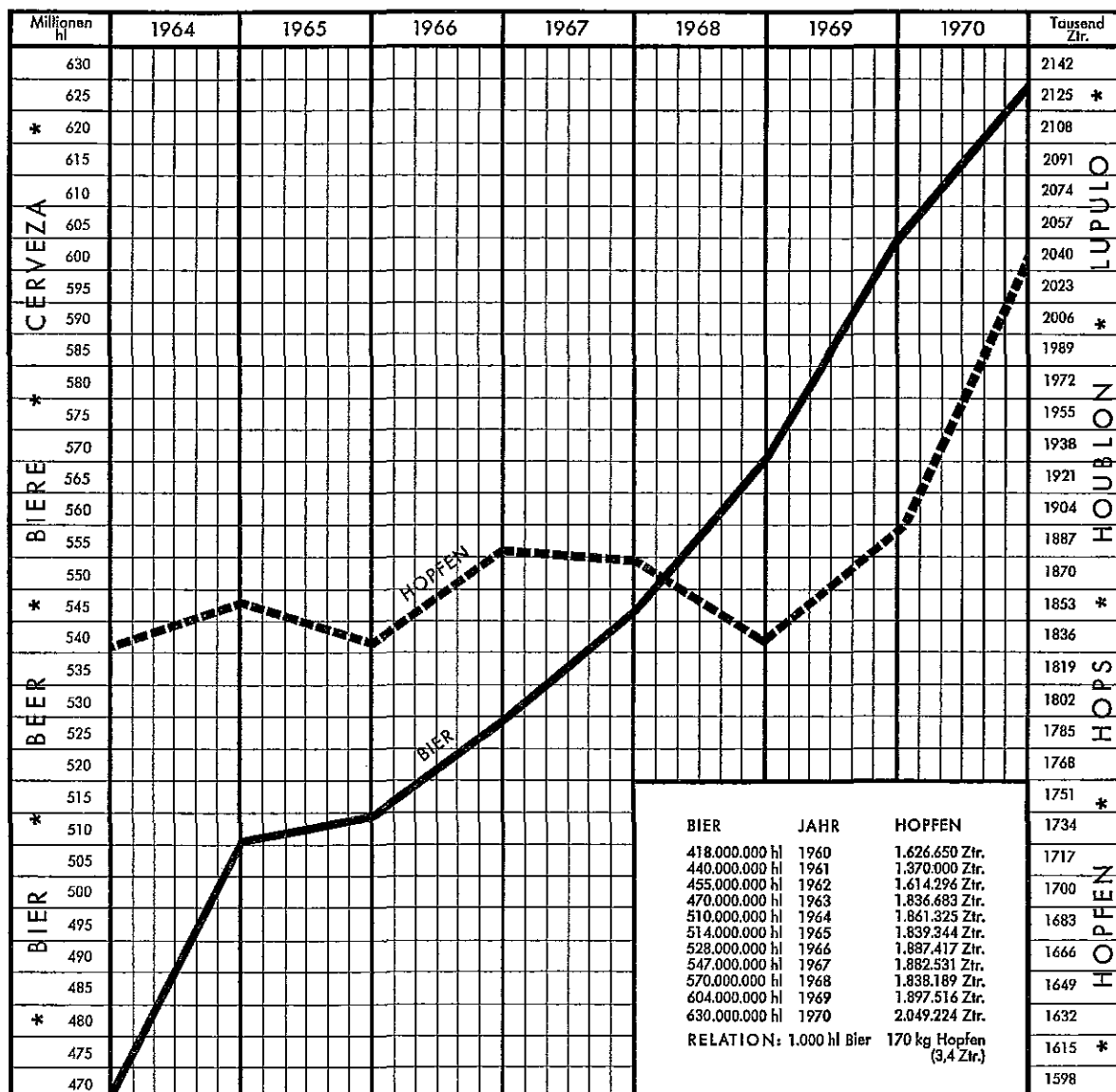
Acreage, Yield and Production 1969 and 1970

Country	Acreage 1969 Acres	Yield Pounds per acre	Production 1969 Pounds	Acreage 1970 Acres	Yield Pounds per acre	Production 1970 Pounds
Hallertau	23,348	1,687	39,377,353	25,120	1,906	47,875,755
Spalt	2,473	1,419	3,508,180	2,417	1,561	3,773,503
Hersbruck	877	1,586	1,390,992	843	1,673	1,410,613
Jura	687	1,622	1,114,315	768	1,727	1,325,957
Tettwang	2,318	1,895	4,392,445	2,325	1,783	4,144,648
Wurttemberg	32	1,085	34,722	27	1,127	30,423
Baden	59	1,508	88,956	44	1,678	73,854
Rheinpfalz	35	1,008	35,274	32	861	27,558
Germany (West)	29,829	1,674	49,942,237	31,576	1,858	58,662,311**)
Germany (East)	5,182	1,319	6,837,567	5,182	1,195	6,194,926
Saaz (Zatec)	16,538	1,071	17,708,560	15,945	1,062	16,931,328
Auscha (Ustek)	3,563	1,130	4,026,702	4,010	1,035	4,152,254
Other Districts	1,483	1,087	1,611,452	1,628	1,225	1,994,942
Czechoslovakia	21,584	1,082	23,346,714	21,583	1,069	23,078,524
Alsace	1,833	1,721	3,154,783	1,977	1,738	3,435,869
Burgundy	163	1,582	257,938	185	1,644	304,235
Flandres	544	1,581	859,794	680	995	676,812
Others	—	—	—	—	—	44,092
France	2,540	1,682	4,272,515	2,842	1,570	4,461,008
Alost	988	1,584	1,565,266	1,013	1,469	1,488,105
Poperinge	1,791	1,754	3,141,555	2,009	1,372	2,755,750
Vodelée	49	1,350	66,138	49	1,799	88,184
Belgium	2,828	1,688	4,772,959	3,071	1,411	4,332,039
Slovenia	6,279	1,188	7,461,358	5,957	1,331	7,928,183
Backa	3,116	1,175	3,661,841	3,138	1,308	4,104,965
Jugoslavia	9,395	1,184	11,123,199	9,095	1,323	12,033,148
Austria	259	1,321	342,154	245	1,072	262,568
Galicia	316	539	170,195	311	612	190,257
León	2,061	1,091	2,248,141	2,397	1,201	2,878,326
Cantábrico	368	532	195,768	358	528	189,044
Spain	2,745	952	2,614,104	3,066	1,062	3,257,627
Switzerland	32	1,609	51,477	32	1,371	43,872
Roumania	1,977	633	1,251,111	1,977	607	1,199,964
Bulgaria	2,965	446	1,322,760	2,965	438	1,299,942
Hungary	1,433	680	974,323	1,112	642	713,739
Poland	5,832	638	3,721,365	5,313	1,008	5,354,973
USSR	25,451	801	20,392,550*)	31,233	600	18,739,100
Kent	9,111	1,487	13,548,359	9,293	1,512	14,046,388
Hants/Surrey	610	1,306	796,742	625	1,645	1,028,446
Sussex	1,433	1,363	1,953,386	1,445	1,451	2,097,346
Herefordshire	4,020	1,287	5,174,306	4,220	1,602	6,761,398
Worcestershire	1,544	1,293	1,996,045	1,628	1,581	2,574,642
England	16,718	1,404	23,468,738	17,211	1,540	26,508,220
EUROPE	128,770	1,209	154,433,773	136,503	1,218	166,252,192
Washington	18,100	1,560	28,235,966	18,700	1,680	31,415,991
Oregon	4,201	1,250	5,249,924	4,300	1,670	7,180,933
California	1,500	1,550	2,324,971	1,401	1,559	2,183,987
Idaho	3,200	1,860	5,951,979	3,299	1,540	5,082,043
U.S.A.	27,001	1,547	41,762,840	27,700	1,656	45,862,954
Canada	966	1,662	1,605,169	998	1,828	1,824,306
Victoria	714	1,605	1,146,172	874	1,716	1,499,789
Tasmania	1,604	1,933	3,099,998	1,483	1,885	2,795,984
Australia	2,318	1,832	4,246,170	2,357	1,822	4,295,773
New Zealand	610	1,682	1,025,911	615	1,716	1,055,452
Japan	4,253	1,252	5,325,432	3,921	1,413	5,539,498
Argentina	544	567	308,644	558	695	388,010
South Africa	306	587	179,675	306	442	135,142
Other Countries	1,482	186	275,575	1,650	322	531,529
WORLD	166,250	1,258	209,163,189	174,608	1,294	225,885,961

*) Estimate

**) Official Weight December 3rd, 1970

World
Production
Beer and Hops



The above graphic chart refers only to quantities. As regards **hops**, no indications of the brewing value of the particular world crop can be made. Because of the rise in the production of bittering varieties of hops, the bitter value of the world crop increases disproportionately. The rapidly growing consumption of refined products results in a further saving for the brewing industry. On the other hand in a number of countries there is a recognizable tendency towards a stronger hopping rate in beers. As a result of these opposing factors the consumption rate remains at 3.4 cwts. hops = 1,000 hl beer.

After a long-lasting winter with a great deal of snow and an extraordinarily cool spring the **uncovering** and **cutting** of the hops only could be started at the time from April 1st until April 15th. Unfavourable cool weather in April and May delayed the growth of the young shoots.

Sunny and warm weather with ample precipitations in June/July could favourably influence the growth in all hop growing districts. The set-back of growth was equalized, the hops reached the height of the trellises in due time and showed a rich development of **laterals**. Warm weather benefited the appearance of **Downy Mildew** so that preventive sprayings were necessary. An extraordinary danger arose from an obstinate attack of **aphids** which only could be eliminated by repeated control measures.

At the beginning of August thunderstorms and strong wind caused local damage in several districts. The further lasting favourable weather conditions benefited especially in the second half of August the **formation of the cones** as well as the **ripening of the hops** to such an extent that not only a qualitative, but also the **largest hop crop** could be harvested.

FED. REP. OF
GERMANY
Growth 1970

Picking started generally on August 28th and was finished till mid-September under favourable weather.

Quality. The hops of crop 1970 had middling-sized cones of green colour. The bitter value was generally about 10 % higher than last year's results. Kilning and machine-picking was benefited by excellent harvest weather and gave reason for complaints in some cases only.

HALLERTAU. Ideal weather conditions during the whole growing period produced a record crop whereby the increasing cultivation of the varieties Northern Brewer and Brewers Gold had finally contributed to this result. Whereas attacks by **Downy Mildew** and **aphids** could be successfully controlled, the strong appearance of **Verticillium Wilt** caused a loss of approximately 25.000 cwts.

SPALT. As a consequence of a strong **dryness** the pleasant growth of the plants ran into a critical phase in July, which, however, was overcome by abundant rainfalls in August. In spite of the unequal stand of the hop yards the qualitative best crop during the past ten years could be harvested. Diseases and pests were kept successfully under control.

TETTANG. In this district too, the high summerly weather with abundant thunder-showers had favourably influenced the growth of the hops, but last year's crop result could not be reached. Apart from the strongly appearing **Botrytis**, noticed for the first time, hop yards were free of pests and diseases.

HERSBRUCKER GEBIRGE. The set-back in growth of the hops occurred in spring could be equalized by excellent weather during the summer months. From the abundant precipitations in August profited especially the late varieties which favourably affected the good crop result. The increased evidence of **aphids** was successfully controlled.

**Crop Estimate
1970**

The Crop Estimating Commission established the following figures:

	Yield estimated 1970 lbs.	Yield weighed on December 3rd, 1970 lbs.
Hallertau	41,446,480	47,875,755
Spalt	3,637,590	3,773,504
Tettang	4,188,740	4,144,648
Hersbruck	1,432,990	1,410,613
Jura	1,212,530	1,325,957
Wurttemberg	29,762	30,423
Baden	60,627	73,854
Rheinpfalz	30,864	27,558
	<u>52,039,583</u>	<u>58,662,312</u>

In comparing these figures considerable differences in two growing districts are conspicuous. The increased production in Jura (+ 9 %) is of no great significance for the overall result, however, in the Hallertau there results a larger harvest by almost 60,000 cwts. (15.5 %)

Repeatedly the question has arisen what circumstances are responsible for the sometimes considerable deviation between the estimate and harvest figures. Besides of the difficulty in predicting losses due to disease or weather the following are the primary reasons:

1. Unregistered acreage.
2. Larger harvest due to increased cultivation of higher yield varieties (Northern Brewer, Brewers Gold, and others), the extent of which cannot be statistically determined.

As a result of the record harvest purchasing was not hectic nor subject to large price fluctuations. Because of lively trading activity most districts were limited in their supply already by middle of October 1970.

HALLERTAU. In this district, in which the crop estimate was considered from many sides as too low, the farmers were anxious to sell and also initially to make price concessions for the Hallertau Middle-Early variety. The active demand for Northern Brewers was only met with a limited offer which resulted in unproportionately higher daily quotations.

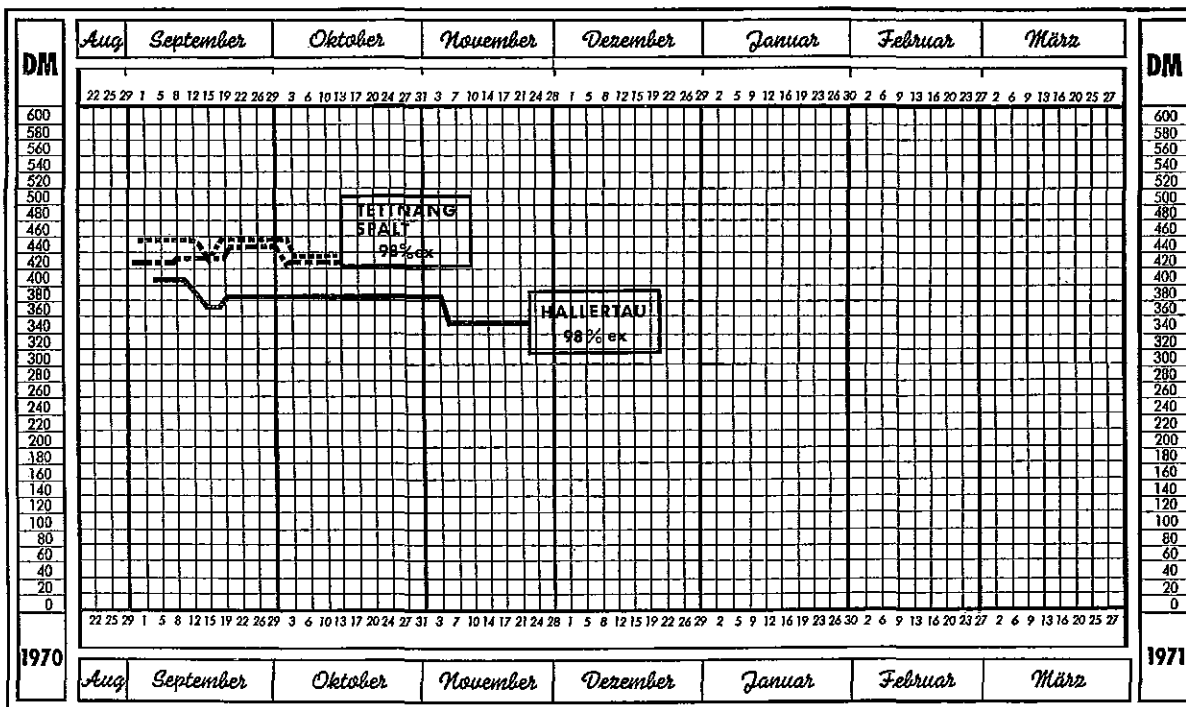
On October 9/10th, 1970, very lively buying activities started, which calmed down by the end of the month. During the following prolonged inactivity the prices decreased to DM 380.—. By mid-November demand started again, but only small remainders were still available. The following table shows the price development in summary form:

	9/9	9/15	9/22	9/29	10/7	10/19	11/11
Hallertau Middle-Early	DM 380.—	370.—	400.—	400.—	380.—	380.—	350.—
Hallertau Northern Brewer	DM 445.—	445.—	445.—	445.—	445.—	460.—	—
Hallertau Brewers Gold	DM 380.—	380.—	390.—	400.—	400.—	400.—	—

As a result of the huge crop volume, transportation and official weighing halls were temporarily jammed up, thus resulting in a delay in delivering the different lots to their destination.

SPALT. First purchases were made already on August 31st, 1970; the price picture was at the beginning still quite uneven. Increased purchase activity since September 20th brought quotations up to DM 450.—. Toward the end of the month in Spalt too inactivity set in, but the short supply of free available hops and the firm attitude of the growers prevented a stronger decrease of prices. By the middle of October there were practically no more offers.

	9/9	9/15	9/22	9/29	10/7
DM	430.—	430.—	450.—	440.—	440.—



HALLERTAU ——— SPALT - - - - - TETT NANG ······

TETTANG. After preliminarily firm attitude of the farmers and limited buying inclination by the trade, a short term price decrease set in and lively business activities developed. On September 22nd, however, DM 450.— had to be paid again. Toward the end of the month the market calmed down and this trend remained for about three weeks and prices decreased during that period. By the middle of October this district could be considered sold out.

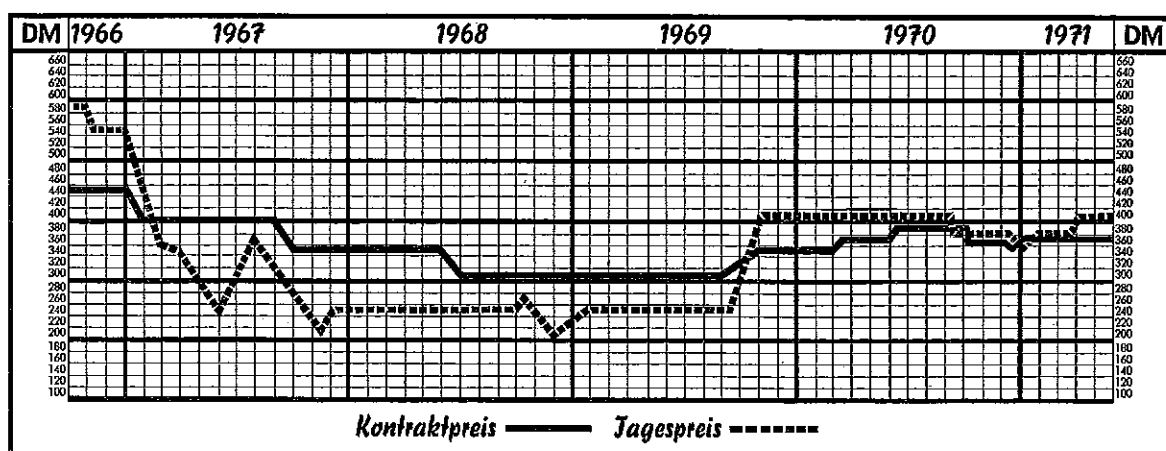
	9/9	9/15	9/22	9/29	10/7
DM	450.—	420.—	450.—	450.—	430.—

HERSBRUCK. Purchases started slowly, prices were not uniform. On September 20th market activity set in again, the last week of September was marked by lively purchasing, followed by an inactivity for about three weeks. By the middle of October the district was sold out, except for small remainders.

	9/9	9/15	9/22	9/29	10/7
DM	350.—	335.—	360.—	370.—	350.—

All quotations as mentioned above are net prices plus added value tax, and refer to hops ex stocks of farmers per 50 kilos.

Current- and Contract (3—5 years) prices in the Hallertau



Nuremberg Market

As a result of the plentiful and favourable price offers of farmers there was only sporadic business on the Nuremberg Market at the beginning of the season. With the progressing first-hand sellout lively demand set in and in the last week of September it came to considerable turnover, also in foreign hops. After a three weeks market inactivity, in the second week of November demand set in again, which surprisingly was accompanied by a small decrease of prices. The quotations of the various varieties were as follows:

Date	Hallertau			Spalt	Tettang	Hersbruck
	Middle Early	Northern Brewer	Brewers Gold			
9/11/70	435.—	500.—	440.—	480.—	—	—
10/ 3/70	440.—	520.—	450.—	495.—	500.— N	410.— N
10/10/70	440.—	520.—	440.—	—	—	395.—
10/17/70	435.—	520.—	440.—	495.—	490.—	405.—
11/15/70	420.—	525.—	—	490.—	490.—	390.—
11/30/70	405.—	510.—	—	480.—	480.—	—
12/30/70	405.—	510.—	410.—	480.—	475.—	380.—

N = nominal

In the middle of January there was again larger turnover. The limited offers led to a strengthening of the market in Hallertau varieties, the procurement of which became continuously more difficult. While Northern Brewer and Brewers Gold were almost no more

available, Hallertau Middle-Early variety was quoted at DM 415.—/430.—. Contrary to this the owners of Spalt and Tettngang hops had to accept price concessions, because the buyers paid barely more than DM 445.—/450.—. Same as during the year before the German market was already sold out prior to the beginning of the new season.

Increased interest in forward contracts appeared toward the end of purchasing activity in hops crop 1970. Especially in demand were Hallertau varieties of the crops 1971/72, which, however, were scarcely offered alone. These years could be bought almost only in connection with contracts for later years.

Of interest is the fact that the price gain of Northern Brewer against Hallertau-Middle-Early variety reversed as a result of the increased cultivation of hops with a high bitter value.

The above quotations are per 50 kilos net, plus added value tax, packing excluded, ex warehouse.

Districts	1960 Acreage acres	1970		
		Existing acr. acres	Additional acr. acres	Total acres
Hallertau	14,344	23,366	1,754	25,120
Spalt	2,258	2,367	49	2,416
Hersbruck	1,376	808	35	843
Jura	440	682	86	768
Tettngang	1,791	2,276	50	2,326
Wurttemberg	376	27	—	27
Baden	74	44	—	44
Rheinpfalz	62	32	—	32
Germany	20,768	29,602	1,974	31,576

**Hop Acreage
1970**

Whereas in most other districts variations of the acreage can be easily surveyed, this is not suitable for the Hallertau. In this largest hop growing district of the world, on account of Vorticillium Wilt, that means grubbing out respectively changeover to other resistant or tolerant hop varieties, as well as other reasons, is the fluctuation especially large and to be registered statistically only with delay.

The extent of unregistered hop acreage is subject of discussions since years on the occasion of the crop estimate. The Estimating Commission starts from the principle that the actual acreage is larger than the officially declared and therefore adds to the official figures an assumed overhang acreage (1969: 741 acres).

As payments made to farmers on account of the Revaluation Compensation Law per hectare of hop yards were considerably higher than those for other cultures and furthermore there have been granted tax advantages for hop acreage, farmers have successively revealed hop yards unregistered up to now. It can be supposed that the unusually large increase of about 2,965 acres from 1969 to 1970 in the Hallertau is based to a great extent on such posterior registration.

In the year 1971 in Bavaria for the first time together with the hop acreage a registration of hop varieties shall take place. Official figures are not yet available.

From September 1st, 1970, until March 31st, 1971, hops were imported as follows:

**Hop Imports
Crop 1970**

Country	Domestic Consumpt.	Refinement transit	Country	Domestic Consumpt.	Refinement transit
	lbs.	lbs.		lbs.	lbs.
Czechoslovakia	1,492,735	1,272,275	b. f.	6,336,461	3,416,909
Belgium	1,439,604	—	Poland	—	169,754
Jugoslavia	1,194,672	1,204,814	Australlian Isl.	—	78,043
France	1,139,998	—	Portugal	—	66,138
U. S. A.	1,069,452	377,427	Austria	—	47,178
Spain	—	562,393	Other Countries	26,455	64,374
c. f.	6,336,461	3,416,909	Total	6,362,916	3,842,396

Imports crop 1969 until March 31st, 1970 = 5,263,923 lbs. / transit 5,321,684 lbs.

**Exports of Hops/
Powder and
Extracts
Crop 1970**

From September 1st, 1970, until March 31st, 1971, exports of Hops/Powder and Extracts were as follows:

Country	Hops/Powder lbs.	Extract lbs.	Country	Hops/Powder lbs.	Extract lbs.
France	1,007,723	349,209	b. f.	15,804,998	1,448,863
Belgium	785,940	61,729	Madagascar	56,217	1,323
Sweden	676,371	16,094	Tanzania	44,753	2,425
Austria	653,884	52,910	Egypt	44,092	9,039
Italy	611,997	267,638	Algeria	37,478	—
Spain	564,598	221,342	Cameroons	25,132	3,307
Denmark	485,232	48,722	Rep. of South Africa	24,471	61,067
Czechoslovakia	442,904	—	Ivory Coast	23,184	7,055
Great Britain	406,528	15,211	Nigeria	22,046	28,880
Roumania	354,941	7,716	Mozambique	20,723	5,291
Switzerland	309,967	125,442	Ethiopia	17,637	9,921
Finland	267,859	7,716	Gabun	15,432	882
Norway	255,293	5,511	Congo-Brazzav.	10,362	1,102
Netherlands	140,874	165,125	Upper Volta	8,818	1,984
Portugal	98,766	2,205	Togo	8,598	2,645
Ireland	28,439	12,787	Malawi	8,157	—
Malta	8,598	—	Sudan	6,614	—
Greece	5,512	6,614	Reunion	5,070	—
Europe	7,105,426	1,365,971	Senegal	4,189	7,496
U. S. A.	7,505,781	882	Ruanda-Burundi	3,968	15,653
Brazil	247,136	3,086	Zambia	3,527	—
Venezuela	179,234	—	Ghana	—	9,921
Argentina	135,803	2,425	Africa	779,359	227,736
Canada	91,932	—	Japan	2,206,143	220
Uruguay	46,517	3,748	South-Korea	205,028	—
Bolivia	43,431	220	Thailand	185,186	—
Mexico	20,944	2,205	Taiwan	165,346	—
Panama	15,653	—	South-Vietnam	110,230	—
Trinidad a. Tobago	15,212	—	Turkey	102,514	—
Nicaragua	7,275	—	Philippine Isl.	100,309	—
Martinique	1,763	2,645	Hongkong	58,201	—
Peru	—	7,936	Malaysia	3,748	661
America	8,310,681	23,147	Indonesia	661	7,716
Kenya-Uganda	108,907	5,512	Asia	3,137,366	8,597
Canary Islands	97,223	662	Amer. Oceania	—	20,723
Morocco	63,713	—	French Polynesia	4,409	882
Angola	60,185	14,991	Australia	4,409	21,605
Congo-Kinshasa	58,863	38,580	Other Countries	18,298	20,062
c. f.	15,804,998	1,448,863	Total	19,355,539	1,667,118

Exports crop 1969 until March 31st, 1970 = Hops/Powder 16,694,443 lbs. / Extracts 1,352,739 lbs.

**EUROPEAN
ECONOMIC
COMMUNITY
(EEC)**

With the beginning of negotiations for the entry of Great Britain, the expansion of the European Common Market has reached an important new stage. Also other countries (Ireland, Denmark, and Norway), interested in a joinder have started respective preliminary discussions, the course of which depends on the progress of the negotiations with England.

In consequence of this development special agreements will have to be reached with those EFTA-Countries which do not join the Community because of their political neutrality or for other reasons. Among these are Switzerland, Austria, Sweden and Finland.

Within the Community of the Six efforts to reach over and above the tariff union, an economic and currency union have received new impetus. Of course the achievement of the distant goal of a political federation is still quite far away.

**Hop Market
Regulation**

On February 23rd, 1971, the EEC-Commission made a proposal for a hop market regulation to the Ministry Council. This consists of two parts, first the real

proposal for a regulation of the Council regarding the establishment of a Common Market Organization for hops

and the

proposal for regulation of the Council for certification of provenance of hops.

The main parts of the market regulation may be summarized in the following points:

- 1) Valid for hops, hop powder, enriched hop powder, hop extract, and mixed hop products.
- 2) Indication of origin, specification of quality standards, classification of varieties.

- 3) Annual determination of minimum income, possible subsidies to producers as well as fostering the formation of producer co-operatives.
- 4) Market observation and statistics.
- 5) Liberalization of trade and protective measures against market interferences.

These proposals were first of all submitted for consideration to the Governments of the six member states prior to being debated by the European Parliament in Strassburg.

The significance of an arising European Common Hop Market, which would be strengthened with the likely entry of England induces the third party hop producing countries — especially the USA — to follow the development with considerable attention. Suspect first of all are the regulations for specification of a quality standard and the issue for providing subsidies to producers and producer co-operatives. Of great concern is that free enterprise would be distorted through subsidies and that an uncontrolled over-production of hops would result.

Cool and wet weather in April delayed the beginning of **spring work**. Fine and sunny weather in May favoured at first the growth of the plants, but this development was strongly hampered by a dry period in June. The hops reached the height of the trellises at the beginning of July and stood in bloom at mid-July. Downy Mildew and aphids were successfully controlled. **Thunder-showers** and **strong winds** caused damages to the plants throwing down the hop yards on 124 acres. Approximately 148 acres were strongly damaged by **hail**.

Favourable weather with abundant rainfalls in August were especially advantageous for the **formation of the cones** and the **ripening** of the hops and led to a crop result above average.

Picking started on August 25th and was finished at mid-September under fine weather. About 75 % of the crop was harvested by 120 picking machines.

The **quality** of the hops was judged better than the year before. On an average the bitter value was 1.1 % higher than 1969. The crop was graded as follows: 26.6 % of grade II, 68 % of grade III, 10.7 % of grade IV and 0.7 % of grade V.

The local brewing industry was supplied with 51,200 cwts. of hops. Besides 12,400 cwts. of hops of crop 1970 were imported; exports amounted to 5,000 cwts.

As a consequence of the long-lasting winter **spring work** could be finished only at the beginning of May. Under mostly cool and wet weather conditions in the second half of May the growth of the plants was somewhat hampered, but this set-back was equalized to a large extent by sunny and warm weather in June/July. Against **Downy Mildew** and the strongly appearing **aphids** constant sprayings had to be effected. 642 acres of the hop yards were more or less strongly affected by **hail**.

As a consequence of heavy thunder-showers at the beginning of August accompanied by strong winds, approximately 395 acres of hop yards were thrown down. In order to protect these hops against **Downy Mildew** and pests, intensive sprayings by planes were effected. Further lasting favourable weather in August benefited the development of a **dense set of cones** in such a way that the crop estimate announced before harvest time was exceeded by far reaching with 209,367 cwts. nearly the record crop of the year before.

Picking set in on August 23rd and was finished on September 10th under continuous fine weather. 416 picking machines were in action and harvested about 65 % of the crop.

Quality. The bitter value was about 10 % higher as against the year before. The crop was graded as follows: 70 % of grade I and 30 % of grade II.

The home brewing industry was supplied with 83,764 cwts. of hops. An additional 3,718 cwts. of hops of crop 1970 were imported; exports amounted to 129,420 cwts.

The Czechoslovakian hop economy respectively the Government is undertaking great investments on the sector of hop cultivation and marketing. In Saaz a 14-story central warehouse with an area of 30.000 m² for storage of hops will be erected until autumn 1972. For this and other warehouses 10 hydraulic presses were purchased and a plant for producing hop powder will be established. Also the institution for hop research will be newly furnished in a generous manner.

DEUTSCHE
DEMO-
KRATISCHE
REPUBLIK
(D.D.R.)

CZECHO-
SLOWAKIA

POLAND

Despite the delayed spring general growth of the hops was favourably influenced by fine climatic conditions, and was especially benefited by high summerly temperatures with abundant rainfalls in the months of July and August. The plants had mostly reached the height of the trellises and showed a partly strong overhang as well as a good and fully ripened **set of cones**. Whereas aphids could be controlled effectively, **Downy Mildew** could not be controlled in the last days of the harvest as a consequence of strong rainfalls. This meant a decrease of the good harvest result by about 4,000 cwts.

Picking lasted from August 23rd until September 15th, was however hampered by bad weather. Five picking machines were in action.

Quality. In comparison with the last year the bitter value of the hops was judged better. The crop was graded as follows: 22.3 % of grade I, 58.4 % of grade II, 18.4 % of grade III and 0.9 % of grade IV.

HUNGARY

In spite of delayed spring work the growth of the plants was favourably influenced by sufficient precipitations in April/May. In June/July, too, warm and sunny weather favoured the further development, but storm and hail caused heavy damages in the hop yards. Abundant precipitations in August caused great difficulties to some production communities to control **Downy Mildew**, thus resulting in a loss of crop especially with the late varieties.

Picking of the early varieties lasted from August 8th till August 25th, the late varieties were harvested from September 2nd till September 14th. Lasting rainfalls complicated the harvest. Five picking machines were in action.

Quality. The cones of the early varieties had a higher lupulin content compared with the last years. The late varieties, however, were judged considerably weaker as a consequence of bad weather. The crop was graded as follows: 36.9 % grade I, 29.5 % grade II and 33.6 % grade III.

The whole crop was taken over by the Hungarian States Brewery to fixed prices. An additional 4,250 cwts. of hops were imported in 1970.

GREECE

The main growing district of the Greek hop production is situated at the foot of the Pindos mountain directly in the surroundings of **Janina**. Janina is located at a lake which is guaranteeing the artificial irrigation of the hop yards. As aroma hops do not develop well, exclusively the high yield variety Northern Brewer is growing. During the season 1970 on a total acreage of 70 acres 114,639 lbs. (1,638 lbs. per acre) were harvested. An extension of the hop acreage is intended.

JUGOSLAVIA

In the **SANNTAL (SLOVENIA)** spring work was delayed by a long winter. Cool and rainy weather in April and May had influenced the growth of the hops unfavourably. The resulting set-back, however, could be equalized in June/July under warm and sunny weather, interrupted by abundant rainfalls in time.

The bines reached the height of the trellises at the beginning of July and showed a vigorous overhang. The yards stood in bloom at the end of July. Continuing steady weather in August developed a **plentiful set of cones** promising a good crop. No difficulties arose from the control of pests and diseases.

Picking started on August 18th and was finished on September 5th under partly rainy weather. 30 picking machines were in action.

Quality. The Styrian hops crop 1970 had a higher bitter value as against the year before and were graded as follows: 97.05 % grade I, 2.49 % grade II and 0.46 % grade III. The home brewing industry received 14,260 cwts. whilst 57,175 cwts. of hops were exported.

BACKA. During the whole season growth of the hops was disadvantageously influenced by unfavourable weather conditions. Especially **hail** and **thunderstorms** during the time from 10th till 17th of July caused heavy damages in the hop yards, from which about 50 ha were totally destroyed. In spite of repeated and energetic control measures the infection of **Downy Mildew** could not be completely brought under control.

Owing to cool weather causing a delayed bloom **picking** set in not before August 26th and was finished on September 12th. The bringing in of the crop was strongly affected by

rain and hail. The **quality** of the hops was not satisfying, as the cones had suffered from wind whipping and hail.

The damages resulting by thunderstorms, hail and Downy Mildew led to a reduction of the estimated crop yield by about 30 %, so that difficulties arose for delivery of the concluded export engagements. The total crop of 37,240 cwts. was exported. To cover the demand of the home brewing industry 4,000 cwts. of hops and 80 tons of hop-extract had to be imported.

In the district of **MUEHLVIERTEL** uncovering and cutting was delayed by a long winter with a great deal of snow and could only be finished at the beginning of May under difficult circumstances. With rising temperatures at the beginning of June the delayed development of the plants was equalized again. Already at this time **Downy Mildew** and especially the strong appearance of **aphids** had to be controlled intensively. The hops reached the height of the trellises at mid-July, showed a slight overhang and stood in bloom at the beginning of August. Warm weather in August in connection with thunder-showers provided an even and rich set of cones.

AUSTRIA

Picking started on August 31st and was finished on September 25th under warm and sultry weather.

Quality. The crop was judged as follows: 93.5 % of grade I, 5 % of grade II and 1.5 % of grade III. For first quality Austrian Sh 2,900.— were paid by the interested breweries.

On a reduced acreage of 72 acres, a crop of 103,175 lbs. (1,433 lbs. per acre) was harvested.

In the district of **LEUTSCHACH** the growth of the hops was generally influenced by favourable weather conditions, but the crop result was considerably reduced by several **hail-storms** in July and August. Against diseases and pests the necessary control measures were carefully carried out.

Picking started on August 20th and was finished on September 10th. 80 % of the Styrian hops were already picked by machines. The crop was graded as follows: 83.5 % of grade I, 10.3 % of grade II and 6.2 % of grade III.

On an acreage of 173 acres, a crop of 159,393 lbs. (921 lbs. per acre) was harvested. This meant a crop loss of 28.6 % as against the year before.

The set-back in growth caused by a late and cool spring could be equalized by mostly favourable weather in June. **Downy Mildew** and **aphids** were controlled by regular sprayings in time so that no damages occurred. On account of changeable weather in July and August the plants showed only partly overhang, developed however a rich and equal set of cones.

SWITZERLAND

Picking started on August 23rd and was finished on September 9th under changeable weather. The whole crop was picked by machines.

Quality. The total crop could be sold as grade I. On an acreage of 32 acres, a crop of 43,871 lbs. (1,415 lbs. per acre) was harvested. The price to breweries was standardized at Sfrs. 575.— per cwt.

Weather conditions throughout the year 1970 were mostly favourable for the growth and the ripening of the hops. Downy Mildew and aphids were successfully controlled by immediate sprayings. Lack of disadvantageous influences caused an excellent crop as well in quantity as quality.

SPAIN

Picking lasted from August 16th until September 15th; it was favoured by good crop weather. Already approximately 50 % of the crop were picked by machines; for the hand-picking sufficient labour was available.

Quality. The crop was graded in 90.6 % of grade I, 9.3 % of grade II and only 0.1 % of grade III. Prices paid to farmers, fixed by a decree of the Ministry of Agriculture, were between DM 400,— and DM 275,— per 50 kilos of hops of grade I, graduated according to the several varieties.

The taking-over of the hops and distribution of the crop to the brewing industry is handled by the Sociedad Anónima Española de Fomento del Lúpulo which is also charged with the technical advice and supervision of the farmers.

Hop acreage and crop of the three growing districts:

District	Acreage acres	Crop 1970 lbs.	Yield per acre lbs.
Zone I — Galicia	311	190,257	612
Zone II — León	2,397	2,878,326	1,200
Zone III — Cantábrica	358	189,044	528
Total	3,066	3,257,627	1,063

The main point of the Spanish hop cultivation is shifting more and more to the district of León where also the highest yields per acre are obtained. For 1971 an extension of the acreage by about 556 acres is planned.

FRANCE

ALSACE. Snowfalls in March as well as cool and unfriendly weather in April till about mid-May hampered the development of the plants. Improved weather conditions and high summerly weather in June benefited the growth so that the set-back caused in the beginning was equalized. In June and July 247 acres of hop yards in the Rhine districts mainly were heavily damaged by **hail**, about 198 acres of which belonged to the variety Record.

Whilst the hop yards struck by hail before mid-June could recover again, the yards standing in full bloom in July were **totally destroyed**. In general the hops remained pointed, but under warm and sunny weather in August the cones ripened also on the lower part of the bines. The appearance of diseases and pests was unimportant.

Picking started on September 3rd and was finished on September 19th under sunny and dry weather. 99 % of the crop were harvested by about 230 picking machines.

Quality. Whilst the traditional variety of Strisselspalt showed a relatively high bitter value, the bitter hop varieties had a lower lupulin content than usual. The crop was graded in 89 % of grade I, 8 % of grade II und 3 % of grade III.

Free available hops were sold on the base of FF 450.—. Only small quantities of the varieties Record and Northern Brewer obtained FF 500.— per 50 kilos when being purchased from farmers. The district was sold out at mid-November.

In **FLANDRES** spring work was carried out under mild weather in March. Already at mid-April preventive sprayings against **Downy Mildew** and **aphids** were necessary. Under favourable growing conditions in June and July especially the variety Brewers Gold developed a vigorous overhang, whereas the variety Northern Brewer generally remained pointed. Lasting warm and sunny weather in August until harvest time benefited the **formation of the cones** so that a qualitative good crop was harvested.

Picking took place from the end of August till mid-September under continuous favourable weather. Picking was effected exclusively by machines.

Quality. The hops were graded as follows: 65 % of grade I, 30 % of grade II and 5 % of grade III.

Prices to farmers for free available hops developed as follows:

		9/1	9/15	10/1	10/15	11/1
Northern Brewer	FF	900.—	750.—	750.—	750.—	750.—
Brewers Gold	FF	650.—	500.—	550.—	550.—	550.—

At the end of December 1970 stocks from first hand were sold out.

In France the tendency to cultivate hops with a high bitter value to a larger extent continues constantly as the following statistic shows.

	Strisselspalt	Northern Brewer	Brewers Gold	Record	Others
1969	1,712 acres	245 acres	284 acres	136 acres	164 acres
1970	1,483 acres	432 acres	469 acres	371 acres	124 acres

In 1970 France imported:

Country	lbs.	Country	lbs.
Germany (West)	1,399,700	b. f.	3,102,974
Jugoslavia	518,301	Belgium-Luxembourg	201,280
Czechoslovakia	1,184,973	U. S. A.	47,619
c. f.	3,102,974	Total	3,351,873

French hop imports for the calendar year 1969 = 1,680,126 lbs.

Export of French hops in 1970 were as follows:

Country	lbs.	Country	lbs.
Germany (West)	2,710,997	b. f.	3,502,448
Belgium-Luxembourg	535,718	Congo-Brazzaville	17,637
Spanish North Africa	77,161	Poland	11,023
Great Britain	75,838	Netherlands	6,173
Algeria	37,478	Gabun	5,952
U. S. A.	34,171	New-Caledonia	3,307
Switzerland	31,085	Other Countries	4,189
c. f.	3,502,448	Total	3,550,729

French hop exports for the calendar year 1969 = 3,083,794 lbs.

Whereas in the district of **ALOST** the varieties Record, Hallertau and Saaz had wintered well, the variety Brewers Gold showed damages by **root rot** of about 25—30%. Sunny and warm weather in May benefited the growth of all varieties, so that the resulting set-back of about 14 days in April could be nearly equalized.

Owing to lasting hot and dry weather in June/July causing **early bloom**, the variety Northern Brewer could not reach the height of the trellises. Also the variety Brewers Gold remained delayed in comparison with normal growth. Contrary to this the varieties Hallertau, Saaz and Record showed an abundant growth. Despite early and regular control measures infection of **Downy Mildew** was noted in many hop yards, also the constantly appearing **aphids** caused great difficulties. In general the stand of the hop yards was still considered good.

Picking started on August 25th under fine weather and was only hampered by rain and wind shortly before the end of the harvest on September 15th.

Quality. Whereas the content of lupulin of the bittering varieties was below average owing to hot weather and poor rainfalls, the variety Replant Hallertau showed a good result. The crop was graded as follows: 75% of grade I, 20% of grade II and 5% of grade III.

POPERINGE. As a consequence of cool and wet weather in April the growth of the plants could develop only slowly. Warm and lasting dry weather in May/June especially hampered the newly planted young shoots. But also the varieties Northern Brewer and Brewers Gold covering already 90% of the acreage, suffered from **dryness**. The bines remained pointed and showed only partly a weak overhang. Development of the laterals was slow. Whereas Downy Mildew and Oidium appeared scarcely, farmers had great difficulties to control the steadily appearing **aphids**. Some rainfalls in July and at the beginning of August favoured the development of the hops, thus resulting in a still satisfying crop.

Generally **picking** started on August 31st and was finished on September 19th under changeable weather. The whole crop was picked by machines.

The **quality** of the hops was better than expected. The crop was graded as follows: 75 % of grade I, 20 % of grade II and 5 % of grade III.

Market Development

Prices paid to farmers were firm and showed no fluctuations. The free available quantities were scarce anyhow. The following prices were paid per 50 kilos of hops:

Date	Hallertau	Northern Brewer	Brewers Gold
9/15/70	FB 5,000.—	FB 6,500.—	FB 5,000.—
10/ 1/70	5,000.—	7,000.—	5,000.—
10/15/70	5,000.—	7,000.—	5,000.—
11/ 1/70	5,000.—	7,000.—	5,000.—

The growing districts were sold out at the beginning of November.

Hop Imports Crop 1970

Belgium imported the following quantities of hops, crop 1970 from September 1st, 1970 until December 31st, 1970:

Country	lbs.	Country	lbs.
Czechoslovakia	664,466	b. f.	1,614,648
Germany (West)	421,078	Tanzania	15,874
France	356,925	Germany (East)	15,653
U. S. A.	143,519	Great Britain	9,039
Jugoslavia	28,660	Hungaria	661
c. f.	1,614,648	Total	1,655,875

Belgian hop imports crop 1969 until December 31st, 1969: 1,819,675 lbs.

Hop Exports Crop 1970

Exports of Belgian hops from September 1st, 1970, until December 31st, 1970 are shown as follows:

Country	lbs.	Country	lbs.
Germany (West)	811,293	b. f.	1,091,056
Great Britain	93,254	Brazil	4,409
Sweden	52,028	Portugal	3,307
Italy	44,092	Cameroon	1,764
U. S. A.	40,124	Congo-Kinshasa	1,764
Netherlands	25,794	Denmark	1,323
France	18,298	Norway	661
Surinam	6,173	Total	1,104,284
c. f.	1,091,056		

Belgian hop exports crop 1969 until December 31st, 1969: 1,425,494 lbs.

ENGLAND

Weather conditions during the growing period 1970 were very similar to the previous year. A cool and wet April was followed by an unusual **hot period**, lasting until the beginning of July. Sufficient rainfalls in the second week of July were very beneficial for the further development of the **West Midlands** hops, but however just a little too late for the South Eastern district. During this time the yield picture therefore did absolutely not look very good, but a big change came during August. Sunny days and warm nights in all districts favoured the **development of the cones** and **ripening** of the hops in such a remarkable manner, that an unexpected large and good crop could be harvested. Whereas **Oidium** and **Downy Mildew** — with the exception of some Northern Brewer yards — were practically not appearing, there was a bad attack of **aphids** which only could be successfully controlled by new types of stronger sprays.

Picking started at the beginning of September and was finished within four weeks under changeable weather.

Quality. On account of favourable weather conditions during August, the cones showed a satisfactory lupulin content. The crop was judged as follows: 30.34% of grade I, 51.55% of grade II and 18.11 % of grade III. The average price to producers was fixed at £ 32.70 per cwt. (DM 297,— per cwt.)

The following quantities of hops crop 1970 were imported from September 1st, 1970 to March 31st, 1971:

**Hop Imports
Crop 1970**

Country	cwts.	Country	cwts.
Jugoslavia	6,420	b. f.	18,571
Germany (West)	5,690	Poland	379
Belgium	2,764	Spain	197
Canada	1,518	Ireland	122
Australia	1,055	U. S. A.	103
Czechoslovakia	628	Germany (East)	24
Denmark	496	Total	19,396
c. f.	18,571	1 cwt. = 50,8 kg	

English imports of hops crop 1969 until March 31st, 1970 = 18,441 cwts.

The following quantities of hops crop 1970 were exported from September 1st, 1970 to March 31st, 1971:

**Hop Exports
Crop 1970**

Country	cwts.	Country	cwts.
Ireland	12,199	b. f.	15,851
U. S. A.	2,437	Nigeria	273
Belgium	723	Jamaica	8
Malta	492	Other Countries	10
c. f.	15,851	Total	16,142
		1 cwt. = 50,8 kg	

English exports of hops crop 1969 until March 31st, 1970 = 14,421 cwts.

Since 1961 the Agricultural Institute of Dungarven is supposed to be engaged with trials of hop cultivation. The real growing district with an acreage of 120 acres is situated in the **Kilkenny** county. Apart from a wet and cool spring 1970 good weather conditions prevailed during the growth of the hops. The hops reached the height of the trellises at the end of June, showed however a different overhang. **Downy Mildew** and **aphids** had to be controlled every 10 days. Some hop yards were damaged by strong winds shortly before the harvest.

IRELAND

Picking started on September 4th and was finished under good weather on September 23rd. The crop was harvested by three machines.

The hops of crop 1970 were judged lower in **quality** than the year before and graded as follows: 60 % of grade I, 40 % of grade II. On a total acreage of 119 acres a crop of 110,670 lbs. (930 lbs. per acre) was harvested. The hops were accepted according to contracts by the home brewing industry.

CALIFORNIA. In the district of **Sacramento** growth of the plants first developed well in spring under prevailing dry weather. Already at the end of May a strong attack of **Red Spider** had to be effectually controlled. Very changeable weather in June/July with extraordinarily hot respectively cold days hampered the growth of the hops to a large extent. The stand of the yards was not as good as the year before; the cones could not ripen on the lower third of the bines.

U.S.A.

Picking started on August 17th and was finished under warm weather conditions on September 10th.

Regarding the lupulin content the **quality** of the hops was below the result of last year and was judged as follows: 20 % of grade I, 80 % of grade II.

WEST-OREGON. Apart from considerably cool weather in March/April the hops could develop well under ideal conditions during the whole growing period. The bines had a good overhang and showed a rich set of cones, so that a good crop result could be obtained. Against pests and diseases only two sprayings were necessary.

Picking set in at mid-August and was finished at mid-September. At the beginning the harvest weather was mild and dry, later however too cold.

Quality. The cones were judged good in colour and lupulin content. The crop was graded as follows: 30 % of grade I, 40 % of grade II, 30 % of grade III.

EAST-OREGON and IDAHO. In this district the development of the hops was delayed by cool weather in spring which lasted till mid-June. Warm weather at the end of June and in July benefited the further progress of the growth. The formation of the cones was unfavourably influenced by hot weather in August so that despite an enlarged acreage, a smaller crop was harvested against the year before. On the average Downy Mildew and insects were successfully controlled with four sprayings.

Picking started on August 18th and was finished on September 20th under continuing good weather conditions.

The **quality** was generally not as good as last year and was judged as follows: 70 % of grade I, 20 % of grade II, 10 % of grade III.

WASHINGTON. In the district of **Yakima** warm weather in May was very favourable for the growth of the plants. Also the summer months June, July and August were neither too cool nor too hot. The vines had a strong overhang and the yards showed an excellent stand. Downy Mildew and Red Spider were successfully controlled. On the other hand unexpectedly appearing **frost** on September 13th caused considerable damage in those hop yards which were still unpicked at this time.

Picking started on August 17th and was generally finished on September 20th. The ideal harvest weather was interrupted by three stormy and cold days at mid-September.

Quality. Generally colour and lupulin content of the hops were judged better than 1969 and the crop was graded as follows: 50 % of grade I, 30 % of grade II and 20 % of grade III.

**Hop Market
U. S. A.**

Despite of the low yields in Idaho and California the American hop crop 1970 with 416,066 cwts. was 10% above the low crop of last year but only on account of the good crops in Washington and Oregon.

Therefrom about 10,500 cwts. were not for sale because of over-production which exceeded farmers' allotments. This surplus was placed in the Reserve Pool to be disposed of at the direction of the Hop Allocation Committee according to demand.

Unimportant quantities of the limited free stocks were sold in September at 80 cents plus premium. Already in October the crop was sold out at constant prices with the exception of small remaining stocks. On November 5th, the Pool hops at this time consisting of approximately 6,000 bales of crop 1970, were offered for sale by the Hop Allocation Committee at a market price of 80 cents plus premium, of which about 4,000 bales were Yakima Seedless variety, 1,200 bales Bullion variety, 650 bales Fuggle and 106 bales California hops (1 bale about 90 kilos.) At first there was no interest for these Pool hops, however, as on January 18th, 1971, the Hop Marketing Control Board decided to increase the quota for crop 1971 from 80% to 82% and at the same time reducing the price for Pool hops of crop 1970 to 66 cents plus premium, nearly half of these hops could be sold until the end of March. In the meantime the Yakima Seedless variety was sold out from the Reserve Pool. The remaining stocks are estimated at about 1,800 cwts. Bullion hops.

In all four growing districts the hop crops including 1973—based on a quota of 75%—are practically sold out. Also crop 1974 is supposed to be largely under contract.

**Hop Imports
Crop 1970**

From September 1st, 1970 until March, 31st, 1971, imports of hops were as follows:

Country	lbs.	cwts. p. 50 kg
Germany (West)	8,518,201	77,277
Jugoslavia	3,494,867	31,705
France	796,149	7,222
Great Britain	424,408	3,850
Canada	267,960	2,431
Belgium-Luxembourg	112,700	1,022
Total	13,614,285	123,507

From September 1st, 1970 until March, 31st, 1971, exports of hops and extracts were as follows:

**Hop/Extract
Exports
Crop 1970**

Country	Hops lbs.	Extract lbs.	Country	Hops lbs.	Extract lbs.
Germany (West)	1,436,958	103,616	b. f.	10,090,454	1,663,370
Ireland	1,163,037	—	Paraguay	58,752	—
Belgium-Luxembourg	263,119	—	Venezuela	53,242	138,008
Denmark	133,929	20,944	Dominican-Republic	50,595	882
Poland	67,020	—	Ecuador	40,013	5,622
Netherlands	57,209	82,342	Trinidad	30,754	6,283
Austria	49,052	—	British Guiana	14,550	—
Italy	41,888	—	America	7,074,340	1,340,066
France	24,802	—	Nigeria	150,023	—
Great Britain	20,282	32,187	Rep. of South Africa	149,692	7,936
Norway	4,630	3,527	Congo-Kinshasa	55,115	15,432
Switzerland	2,094	83,444	Mozambique	41,116	—
Spain	—	148,039	Cameroons	18,629	—
Europe	3,264,020	474,099	Ethiopia	17,637	—
Canada	2,486,348	—	Sierra Leone	13,889	—
Brazil	1,717,383	92,152	Africa	446,101	23,368
Mexico	1,617,074	346,894	Japan	482,036	—
Chile	275,575	15,432	China	77,161	9,370
Argentina	203,154	93,365	Malaysia	60,957	8,818
Bolivia	149,472	—	Singapore	—	19,841
Peru	123,899	11,464	Philippine Isl.	—	55,115
Jamaica	119,379	—	Asia	620,154	93,144
Guatemala	68,012	20,282	Other Countries	15,984	31,306
Colombia	66,138	609,682	Total	11,420,599	1,961,983
c. f.	10,090,454	1,663,370			

In the district of **KAMLOOPS** a cool spring was followed by a very hot summer which influenced the growth of the hops disadvantageously. As a consequence of this weather the vines showed only a weak overhang and stood in bloom at the beginning of August. Shortly before harvest the crop was considerably damaged by **frost**. The strongly appearing **aphids** could only be controlled under difficult circumstances.

CANADA

Picking started on September 3rd and was finished under good weather on September 26th.

The **quality** of the hops was not as good as the year before.

In the district of **SARDIS** the growth of the hops was favoured by prevailing dry weather. Most hop yards showed a good stand. Also on the lower part of the vines, the cones ripened well. Diseases and pests were successfully controlled.

Picking lasted from August 26th to September 26th, however, was insignificantly delayed by a few rainfalls.

Quality. The hops had a higher bitter value than those of last year. The whole crop was judged as grade II.

On a somewhat enlarged acreage of 998 acres, a crop of 1,825,541 lbs. (1,829 lbs. per acre) was harvested.

In the districts of **NAGANO** and **HOKKAIDO** weather conditions were especially favourable for the growth of the plants until the end of May. **Dryness** dominating during June and July in Hokkaido as well as low temperatures and little sunshine in the other district, however, hampered the further development of the vines. Even favourable weather during bloom and the formation of the cones could not equalize this set-back anymore. Damages caused by **typhoons** shortly before the harvest as well as local infection by Downy Mildew were further reasons for another moderate hop crop.

JAPAN

Picking started at mid-August and was finished at mid-September. There were not enough pickers available.

The breweries accepted the hops at the following prices:

Grade I	DM 475.— per 50 kilos
Grade II	DM 450.— per 50 kilos
Grade III	DM 350.— per 50 kilos

Whereas in the previous years an additional demand in foreign hops according to production plans was purchased for the following year, breweries now are covering 50—70 % of their estimated requirements for one or two years ahead and furthermore are concluding future contracts with foreign hop dealers.

ARGENTINE

The main point of the Argentine hop production is situated at the bottom of the Andes (40th degree of latitude) in the districts of RIO NEGRO, CHUBUT and NEUQUEN, with 332, 99 and 79 acres.

Despite of damages caused by hail amounting to about 15 %, the stand of plants was generally good. The bines reached the height of the trellises at the beginning of November and showed a rich overhang. Downy Mildew and Red Spider were controlled in time. Also at the lower part of the bines the cones ripened well.

Picking was carried out under good weather conditions from February 20th till March 15th, 1970. About 95 % of the crop were harvested by 20 picking machines

Quality. The cones showed a healthy green colour and had a rich lupulin content. With a result of 90 % of grade I, 7 % of grade II and 3 % of grade III, the quality of the crop 1970 was much better than the year before. Producers was paid an unit price of Pesos 11,29 per kilo (about DM 470,— per cwt.).

On a total acreage of 509 acres, 3,360 cwts. of hops were harvested (16,3 cwts. per hectare).

In the district of BUENOS AIRES where the hop cultivation is mostly confronted with climatic difficulties, the hop acreage was reduced to 49 acres producing only 160 cwts. (8 cwts. per hectare). The Argentine hop crop 1970 was completely taken over by the home brewing industry.

AUSTRALIA

TASMANIA. Apart from a cool period, starting at the end of December until mid-January, the weather was favourable for the development of the hops during the season 1970/71. The appearance of Red Spider was kept under control, other pests were unimportant.

Picking started on February 20th, and was finished at the end of March under very nice weather. About 80 % of the hops were picked by machines.

Quality. The early varieties were judged better as against the smaller cones of the late varieties. On an acreage of 1,483 acres a crop of 2,795,984 lbs. (1,885 lbs. per acre) was harvested.

VICTORIA. During the growing period 1970/71 hops could develop normally despite a great humidity in January, February and March. The bines reached the height of the trellises by mid-December, stood in full bloom at the beginning of January and showed a good overhang. Also the cones on the lower third of the bines ripened well. To control Red Spider only one spraying had to be effected.

Picking started on February 15th, and was finished on March 30th, under good weather conditions. 95 % of the crop were picked by machines.

The **quality** of the hops was judged the same as the year before. On an acreage of 874 acres a crop of 1,499,789 lbs. was harvested (1,716 lbs. per acre).

As reported, the variety "Pride of Ringwood" cultivated in Australia is supposed to cover already nearly 50 % of the old acreage. As a special feature of this variety appeared the high yield as well as an average alpha content of 10 %.

Crop 1971

From the Southern Hemisphere, where the crop is harvested in February/March each year, the following information has come to hand:

The development of the hops during the season 1970/71 was considerably hampered by a period of dryness of 40 days, lasting from mid-November until the end of December 1970. Only under favourable weather conditions from mid-January 1971 the set-back in growth could be equalized and still an average crop was harvested.

NEW ZEALAND

Picking started on March 1st and was finished within 3 weeks under good weather. About 95 % of the hops were picked by machines.

Quality. In comparison with last year the hops had a higher content of lupulin and were graded as follows: 1.1 % of grade I, 36.2 % of grade II, 55.9 % of grade III and 6.8 % of grade IV. On an acreage of 613 acres, a crop of 1,058,759 lbs. was harvested (1,727 lbs. per acre). For hops of the varieties "First Choice" and "Smoothcone" a premium of 2½ cents per lb. (DM 10.25 per 50 kilos net) was paid.

As reported, the Argentine hop crop 1971 with 308,644 lbs. is supposed to be about 20 % lower than last year's result. The **quality** of the hops is considered as medium.

ARGENTINE

GERMANY. Because of high summerly and growth-benefiting temperatures in May the plants could develop excellently. In all districts the hops have reached the height of the trellises and show a rich development of laterals. On June 5/6th several districts of the Halbertau were struck by heavy hailstorms, causing an estimated damage of about 10,000 cwts. Downy Mildew and aphids were carefully controlled.

Growth 1971

CZECHOSLOVAKIA. Extreme precipitations in June benefited the growth of the plants in higher locations, whereas hop yards in lower valleys were here and there flooded. The stand of the yards is very different and the bines have reached the height of the trellises only partly. Favourable weather is urgently desired, in order to control Downy Mildew and aphids effectively.

JUGOSLAVIA. The set-back of the plants resulting from a dry period in May, was largely equalized by abundant rainfalls in June. The hops have reached the height of the trellises and the yards show a healthy aspect.

FRANCE-ALSACE. On account of favourable weather conditions the variety "Strisselspalt" has generally reached the height of the trellises, and the varieties "Northern Brewer" and "Brewers Gold" show already an overhang. Whereas Downy Mildew did not appear as yet, the control of aphids caused some difficulties.

BELGIUM. Fine weather conditions in May/June influenced the growth of the plants favourably. Sprayings against Downy Mildew and Oidium were applied regularly. On May 27th in the district of Alost about 173 acres of hops were strongly damaged by hail and partly destroyed.

U.S.A. In Yakima the development of the plants was hampered by cool weather in May/June. Unfortunately early bloom set in, probably reducing the crop aspects. In Oregon the weather conditions for the varieties "Fuggles" and "Bullion" are very favourable. These varieties have developed well and show an excellent stand. The stand of the plants in Idaho is considered as normal.

Nuremberg, July 16th, 1971

JOH. BARTH & SOHN

Essay of a comparison of Hop Requirement and Hop Production 1969 and 1970, based on Alpha

Comparing the world hop production with the world beer production (see diagram on page 5) as to quantities is proving doubtful, mainly on account of the increasing cultivation of hops with high bitter value, the brewing value of which is rising faster than the quantitative result of the world crops.

As the survey of the crop quantity, varieties and content of alpha is to some extent based on estimates, we have made the following classification:

- A) **Choicest Aroma Hops:** Saaz, Tettang and Spalt.
- B) **Aroma Hops:** Hallertau, Jura, Hersbruck, other German hops, Styria, Backa, Saale-hops and Lublin.
- C) **Hops without influence on the World Market:** (Use mainly for domestic demand): East European countries, England, Asia, Africa and others.
- D) **Bitter Value Hops:** The varieties Northern Brewer and Brewers Gold in Europe as well as US-hops.

Therefrom the following results are obtained:

Hop Group	1969				1970			
	% of World Crop	Crop cwts.	Average Alpha	cwts. Alpha	% of World Crop	Crop cwts.	Average Alpha	cwts. Alpha
A	15	283,474	4.6	13,040	14	281,200	4.68	13,160
B	30	561,718	5.24	29,434	30	620,862	5.54	34,396
C	29	555,754	4.92	27,343	28	577,411	5.11	29,506
D	26	496,570	7.19	35,703	28	569,751	7.64	43,529
	100	1,897,516	5.56	105,520	100	2,049,224	5.88	120,591

The hop requirement in form of Alpha, resulting on account of the world beer production has to be calculated as follows:

An average hopping rate of 170 gram per hectolitre has proved to be a reasonable estimate. The year 1968 with a balanced hop and beer production can serve as a starting point of our consideration. Based on an average Alpha-content of the world crop 1968 of 5.66 %, the following figure of Alpha requirement

$$\frac{170 \times 5.66}{100} = 9.622 \text{ Gram Alpha per Hectolitre Beer can be calculated.}$$

Consequently the Alpha requirement of the brewing industry is faced with the following production:

1969:	Alpha-requirement 604,941,000 hl x 9.622 g =	116,415 cwts. of Alpha
	Crop	<u>115,520 cwts. of Alpha</u>
	Deficit	<u><u>10,895 cwts. of Alpha</u></u>
1970:	Alpha-requirement 629,899,000 hl x 9.622 g =	121,218 cwts. of Alpha
	Crop	<u>120,591 cwts. of Alpha</u>
	Deficit	<u><u>627 cwts. of Alpha</u></u>

Contrary to the deficit of abt. 100,000 cwts. of hops according to the usual quantitative calculation, the Alpha calculation 1970 shows a surprising balance between demand and production. As the stable market situation reveals, it gives a more exact picture than the quantitative survey of the world crop.

Finally we can conclude from the above-mentioned statement that the actual hopping rate on the average is not anymore 170 gram but 160/165 gram per hectolitre; this hop quantity however has the same bitter value as formerly 170 gram.