

Present and Future of the Japanese Fragrance and Flavor Industry

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Growth and economic circumstances of the Japanese fragrance and flavor industry

In 1976, the Japanese fragrance and flavor industry handled products and imports of essential oils, fragrances, aromatic chemicals, and fragrances and flavors for food and cosmetics in a total quantity of 31,801 tons and a value of 79,126 million yen. At present, it is hard for us to give any definite prediction regarding the extent of the further growth which the fragrance and flavor industry will attain along with the development of related industries for food, cosmetics, toiletries, and other household items in the domestic market. The future is unclear, i.e., it can be forecast either to be very promising or to be a period of depression.

Although having achieved annual growths of 10-15 percent between 1965 and 1972, the Japanese fragrance and flavor industry fell into an abnormal state in 1973 when the oil crisis, encountered on a world wide scale, pushed the Japanese economy into a state of price disorders and material shortages. This abnormal economic condition continued until 1974, and all companies made frantic efforts to acquire all types of raw materials—natural and synthetic, domestically produced and imported—with a resulting acceleration in the material shortage and further price rises. The raw materials and products, which these firms had purchased on a speculative basis in expectation of fictitious demand, caused the companies to be faced with inventory adjustment, since the government applied financial constraints and total demand suppression as measures against inflation, with a resulting decrease in consumption. The price of petroleum was raised again and this high price prevented the Japanese economy from maintaining the high growth rates of the past; thus a shift appeared to slow economic growth at an annual rate of about five percent.

The "White Paper on National Life" (issued by the Economic Planning Agency) with the subtitle "A New Trend in Living," published in 1976 when the oil shock had been alleviated, made the comment that the Japanese could acquire an "independent attitude" in their consumption habits based on their experiences during the movement of economic circumstances from the abnormal conditions due to the oil shock to the restored natural condition. The phrase "independent attitude" meant that the

consumer should not buy with only vague ideas in mind, but rather select what would be useful in his own life or what he actually would want to enjoy; it did not necessarily mean that cheap commodities were welcomed.

The same 1976 "White Paper on National Life" dealt with a comparison of "the national income per capita" and "the consumption per capita" for Japan and European countries. Figure 1 shows the results of the comparison. The standard of living of Japan has recently grown rapidly toward that of European countries; the increases of international exchange currents of materials and persons and of flow-in of information have given rise to a tendency, especially for the younger generation, to take goods being popularized or already established in European markets into their lifestyles and to enjoy them.

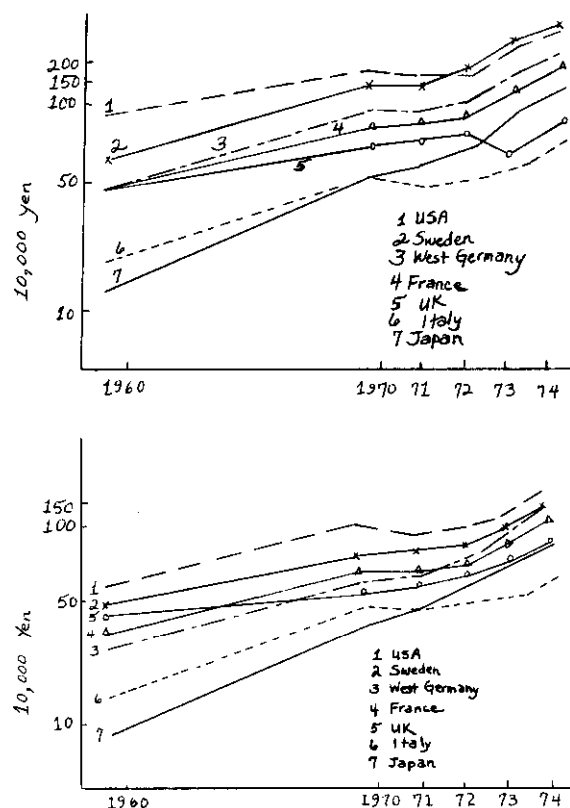


Figure 1. National income per capita (top), and consumption per capita (bottom). Prepared based on the 1974 Yearbook of National Account Statistics by the U.N. and on the Overseas Economic Trend Indexes by Economic Planning Agency, Japan. With regard to Japan, use was made of the "National Incomes Annual Statistics Report." A logarithmic scale was used for the ordinate.

In light of this new tendency, those associated with the fragrance and flavor industry promote a concrete interpretation that flavors and fragrances help make life more affluent.

On July 19, 1977, the Japan Chemical Industry Association made public a report of an investigation on the status quo of the chemical industry, now seemingly involved in an intensified slump. The report regards the fields of fragrances and flavors for food and cosmetics as having already been restored to their normal business conditions and as being expected to maintain such a condition for the time being. Development of the fragrance and flavor industry depends on the consuming business fields such as food, cosmetics, and medicines. However, on the other hand, it should be noted that the fragrance and flavor fields also have a great role to play in the development and marketing of these finished products.

Essential oils

A detailed description of essential oils in Japan will not be given here since such a description is planned in the proceedings of the VII International Congress of Essential Oils.

The main natural essential oils produced in Japan come from lavender, geranium, ho leaf, perilla leaf, Japanese peppermint, peppermint mitcham, and spearmint. In 1967, the Ministry of Agriculture and Forestry furnished the industry with a subsidy budget for the rationalization of the cultivation and harvesting of plants used for the plantation, distillation facilities, and production systems. Efforts have also been made to improve these species. However, the cultivation of these plants and the production of essential oils involve many problems including labor shortages, wages, other competitive plants (rice and citrus fruits), and weather conditions, as well as severe international competition which is inevitable. Thus, no great increase in the quantity of essential oils in Japan can be expected.

The price rise for natural essential oils due to the oil shock provided a temporary stimulus for the domestic production of essential oils, but plant cultivation could not be expanded instantly. The oil panic was soon followed by a drop in value of citronella oil, rosewood oil, ho oil, and eucalyptus oil, all of which had been amassed by all companies for speculation and securing stock. Also, the marketing of synthetic geraniol and linalool and the production of synthetic mint oil made from synthetic menthol and synthetic carvone have had an influence on the production of natural essential oils in Japan. Table 1 shows the statistics for 1972 through 1976 for the main essential oils imported to Japan, itemized into quantity, value, and exporting countries.

Aromatic chemicals

Table 2 summarizes the statistics for 1972 through 1976 of production, exports, and imports of aromatic chemicals.

Table 1. Japan's Imports of Major Natural Essential Oils

Source: Nihon Koryo Sinbun

Note: Parenthesized figures show value (1 million yen).

Item	Quantity (in tons)					Main supplying nations
	1972	1973	1974	1975	1976	
Vanilla beans	27 (114)	38 (162)	39 (172)	23 (131)	62 (350)	Madagascar, France Reunion
Musk	0.4 (447)	0.3 (1,059)	0.1 (672)	0.1 (494)	0.2 (1,006)	Nepal, China
Bergamot oil	29 (224)	32 (223)	44 (337)	15 (133)	25 (169)	U.K., France, Italy
Cananga oil	10 (28)	13 (49)	17 (59)	18 (150)	4 (14)	France, Indonesia
Cinnamon bark oil	19 (42)	27 (55)	28 (107)	18 (150)	23 (155)	China, U.K., U.S.A.
Cederwood oil	62 (60)	111 (141)	132 (200)	4 (9)	35 (41)	U.S.A., China
Citronella oil	754 (584)	890 (992)	534 (1,179)	762 (860)	484 (397)	China, Indonesia, Taiwan
Clove Oil	148 (133)	182 (208)	244 (480)	71 (96)	216 (273)	Indonesia, Madagascar
Eucalyptus oil	67 (47)	70 (48)	41 (107)	15 (25)	38 (38)	China, Spain
Lemon oil	181 (967)	162 (814)	156 (805)	89 (480)	145 (651)	U.S.A., Italy
Orange oil	688 (594)	1,585 (637)	1,411 (768)	1,756 (498)	3,061 (890)	U.S.A., Brazil
Rosewood oil	42 (75)	53 (147)	62 (328)	7 (15)	12 (29)	France
Sandalwood	10 (101)	11 (118)	8 (232)	2 (35)	4 (77)	India
Ylang-ylang oil	12 (126)	17 (171)	10 (128)	4 (106)	9 (162)	France, Madagascar
Lemongrass oil	32 (43)	77 (90)	38 (76)	13 (26)	28 (39)	Guatemala, China
Pachouli oil	33 (109)	46 (215)	34 (158)	10 (58)	31 (137)	Indonesia
Geranium oil	23 (233)	30 (291)	32 (316)	8 (115)	16 (193)	France
Lavender oil	74 (246)	69 (244)	82 (258)	15 (124)	51 (254)	France
Ho oil	46 (52)	43 (124)	29 (153)	1 (4)	8 (15)	Taiwan
Rose oil	2 (321)	2 (378)	2 (506)	1 (460)	2 (349)	France, Bulgaria
Jasmin oil	2 (511)	2 (517)	2 (639)	2 (973)	2 (777)	France
Peppermint oil (All varieties included)	325 (926)	559 (1,507)	498 (2,794)	485 (3,378)	459 (2,240)	U.S.A., Brazil, Paraguay, Taiwan China
Spearmint oil	92 (328)	130 (503)	115 (702)	85 (700)	49 (248)	U.S.A.

Associated with the oil shock, aromatic chemicals production in 1973/1974 rose by as much as 35 percent over that in 1972, and imports increased by 70 percent. The cost inflation in 1973/1974 was so striking that the wholesale price index for the total Japanese economy rose by 30 percent; the aromatic chemicals field also encountered abnormal cost rises for raw materials, auxiliary materials (solvents, additives, packaging, etc), fuel, electricity, transportation, and personnel expenses. This abnormal cost rise resulted, in 1974, in an increase of quantity of fragrances produced of only three percent over that in 1973, whereas the value increased by 45 percent. A lapse of three years was required to adjust the excess inventory which had been brought about by the speculative purchase of raw materials, and to adjust the overproduction stimulated by the temporary demand and the international condition suggestive of raw material shortages.

The exports of aromatic chemicals in 1976 totaled 615 tons, only 7.5 percent of the quantity produced—8,108 tons. The main items were menthol, heliotropin, macrocyclic musk, coumarin, camphor, phenyl ethyl alcohol, benzyl alcohol, and benzyl acetate. The synthesis of

Table 2. Production, Imports and Exports of Aroma Products—left, Quantity (in tons); right, Value (1 million yen)
Source: Japan Flavor & Fragrance Manufacturers' Association

1972				1972			
	Production	Imports	Exports		Production	Imports	Exports
Natural Essential Oils	42	3,219	149	Natural Essential Oils	87	7,908	301
Aromatic Chemicals	5,728	2,723	381	Aromatic Chemicals	11,597	1,530	718
Compound Flavors	11,037	630	456	Compound Flavors	17,027	2,027	570
Compound Fragrances	3,419	459	370	Compound Fragrances	11,814	4,291	845
Total	20,226	7,032	1,355	Total	40,778	15,757	2,434
1973				1973			
	Production	Imports	Exports		Production	Imports	Exports
Natural Essential Oils	30	6,238	165	Natural Essential Oils	77	10,843	350
Aromatic Chemicals	7,672	1,480	393	Aromatic Chemicals	10,966	1,337	673
Compound Flavors	11,350	718	497	Compound Flavors	15,876	2,050	801
Compound Fragrances	4,216	699	360	Compound Fragrances	13,692	5,949	993
Total	23,268	8,135	1,418	Total	40,611	20,179	2,818
1974				1974			
	Production	Imports	Exports		Production	Imports	Exports
Natural Essential Oils	56	4,543	194	Natural Essential Oils	204	13,019	755
Aromatic Chemicals	7,893	2,513	395	Aromatic Chemicals	15,860	3,120	2,131
Compound Flavors	10,736	886	452	Compound Flavors	18,771	2,556	995
Compound Fragrances	4,185	695	315	Compound Fragrances	15,526	6,424	1,230
Total	22,870	8,638	1,356	Total	50,361	25,120	5,111
1975				1975			
	Production	Imports	Exports		Production	Imports	Exports
Natural Essential Oils	31	4,515	112	Natural Essential Oils	106	10,657	426
Aromatic Chemicals	5,819	975	501	Aromatic Chemicals	13,904	1,673	2,521
Compound Flavors	10,136	665	397	Compound Flavors	20,059	2,263	1,178
Compound Fragrances	3,036	495	397	Compound Fragrances	13,125	7,599	1,558
Total	19,022	6,290	1,499	Total	47,194	22,192	5,685
1976				1976			
	Production	Imports	Exports		Production	Imports	Exports
Natural Essential Oils	12	5,802	221	Natural Essential Oils	103	11,074	907
Aromatic Chemicals	8,108	1,089	615	Aromatic Chemicals	15,729	1,852	2,312
Compound Flavors	11,698	874	709	Compound Flavors	23,464	2,715	1,696
Compound Fragrances	3,433	784	348	Compound Fragrances	15,621	8,566	1,491
Total	23,251	8,550	1,893	Total	54,917	24,209	6,407

menthol, the most important product in the aromatic chemicals industry, was accomplished in 1974 almost simultaneously in Japan and Europe by using thymol. This success was based on a series of new processes involving hydrogenation, isomerization separation, and optical resolution, which use thymol synthesized from toluene via *m*-cresol as the raw material. This success has had an epoch-making significance in the industrial manufacture of *l*-menthol through optical resolution of *dl*-menthol. The technical development of menthol synthesis has made continued progress with the establishment of another novel method which uses *d*-limonene as the raw material. One of the significances of this new synthesis method from *d*-limonene is as follows: In exporting to the U. S. A. market, the menthol obtained from thymol has a high customs duty imposed since it is classified as a benzenoid, whereas sales of the menthol made from *d*-limonene has the effect of lowering the customs duty.

A phenomenon beginning in 1970 in Japanese chemical industry circles is that many companies, not previously directly associated with fine chemicals, have entered the field of synthetic aromatic chemicals. This participation has led to the production of vanillin, benzyl alcohol, and benzyl acetate, all of which have established demand in the perfumery field; it has

also led to a beginning of the marketing of linalool and geraniol made from isoprene. Some companies have attempted to manufacture leaf alcohol. Three companies are attempting to use catechol as the raw material to manufacture aromatic chemicals such as vanillin, ethylvanillin, heliotropin and eugenol, medicines, agricultural chemicals, and insecticides. Two companies are planning to develop isoprene derivatives: one is planning to manufacture a series such as linalool, geraniol, squalane, and isoprene, and the other plans to produce myrcene. Another company plans to synthesize anisaldehyde ex *p*-methoxytoluene.

The motive for the participation of these newcomers is based upon an improvement of their activities by making more profitable products, since the growth of demand for the products which have been made by mass scale in conventional fields has stopped and operating rates of the facilities have decreased. Also, cost rises for the raw material naphtha and for energy led to a cost push which suppressed profits.

Manufacture of fine chemicals, however, consists of the production of many kinds of items in small quantities, and is a labor intensive industry. Therefore, these newcomers plan to manufacture a series of derivative products by introducing multi-purpose plants, carrying out extensive labor saving policies, raising the operating

rate of facilities, and achieving effective utilization of raw materials.

It will take these newcomers in the field of aromatic chemicals several years to determine whether they have gained their intended results or whether the limited marketability of aromatic chemicals and the necessity of overcoming various conditions accompanying operations in this field such as pollution control costs and labor costs do not allow the production of aromatic chemicals to yield high profit. At any rate, it is certain that this new trend in the chemical industry will bring about a technical stimulation for aromatic chemicals.

Flavors

As shown in Table 2, in 1976, flavors (natural and synthetic) were produced in the amount of 11,698 tons, 15 percent more than in 1975, whereas imports amounted to 874 tons, 31 percent more than in 1975.

Figure 2 shows a plot of the production of frozen desserts, carbonated drinks, fruit drinks, dairy drinks, and confections over the past ten years.

The food industry in Japan had been expanding with annual production increases of over 10 percent before the oil crisis, in spite of the low rate of population increase and the constancy of daily food calorie intake per capita. In this era of decelerated economy, some feel that the food industry may expand only in proportion to a population increase. However, a tendency deviating from the concept "consumers are conservative in regard to foods" has begun to appear; the same person tends to select a wide variety of goods ranging from expensive to cheap products according to his moods. The foods selected by the Japanese, especially by the younger generation have become greatly westernized; consumers are intensifying their inclination to buy foods for which safety, content, and processing have been established.

In 1970, "fruit juice-containing" flavors and flavors containing alcohol at more than 10 percent, which had been under the import quota system, were completely freed from control, and in 1971 the same liberalization was applied to "concentrates for drinks." Thus, a number of natural flavors not produced in Japan became available for use, contributing to a quality improvement for drinks and confections. Free importation of lemon juice and grapefruit were allowed in 1970 and 1971, respectively, adding to the taste range of the Japanese. This addition has certainly contributed to the expansion of carbonated and fruit drink markets.

Frozen desserts. Among frozen desserts are included ice cream, lacto-ice, and ice cake, of which ice cream amounts to about 10 percent of the whole group. The flavors used are selected on the basis of naturalness rather than cost. Vanilla type accounts for 60-70 percent of the total production of ice cream flavors. Strawberry, lem-

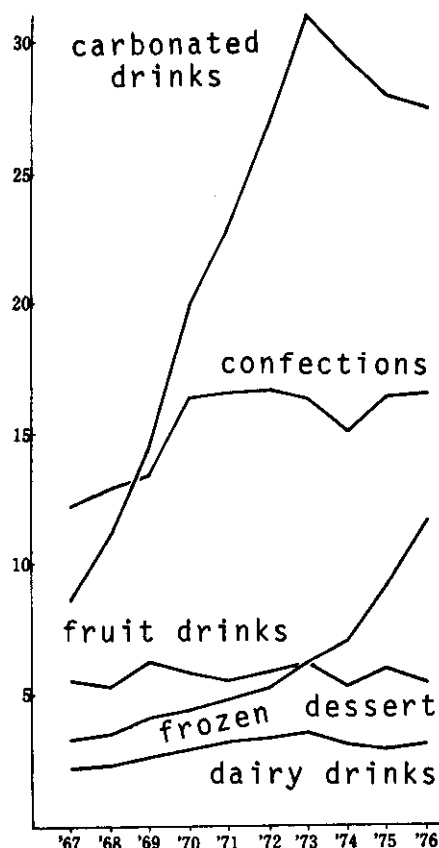


Figure 2. Food production over the past 10 years.

on, coffee, and chocolate flavors are also used in large quantities. Use of processed products of tropical fruits are also being tried. In 1971, one company marketed high-grade ice cream using fruit products made from orange and peach; this broke the image that "ice cream is a dessert for children," succeeding developing a new market for ice cream to be eaten indoors all the year round.

Drinks and fruit juices. Lactic drinks (lactic fermentation) have now encountered demand saturation, and carbonated drinks, which had previously found continuous new demand, have encountered a slow increase of demand. On the other hand, fruit drinks are still finding new demand to such an extent that they were sold in 1976 at an increase of 30 percent over the sales in 1975. Increases in demand in the past five years are: 10 times for natural fruit juices (fruit juice, 100 percent); six times for fruit juice drinks (fruit juice, 50-99 percent) and pulp juices (nectar); 1.6 times for fruit juice-containing soft drinks (fruit juice, 10-49 percent). Orange is used most in these fruit drinks, with apple and grape following. Thus, large quantities of these highly natural flavors are used.

The support policy put into force by the Ministry of Agriculture and Forestry in 1970 for aiding the orange and apple processing business, has been effective in increasing the supply of fruit juices; in addition, the import allocation for orange, apple, and grape juices has been in-

creased by about 1,000 tons (as five-fold fruit juice concentrates) every year. These increases in the supply of fruit juice and the import allocation have allowed a number of new brand products of fruit drinks to be put on the market supported by consumers' tastes for naturalness and nourishment; these new brands of drinks have found a rapid, widespread demand.

In 1974, the distribution of carbonated drink flavors was as follows: cola 32.5 percent; grape 17.2 percent; orange 14.5 percent; lemon lime 18.2 percent; cider (citrus) 9.7 percent; lemon pop (citrus) 0.9 percent; lemon 0.6 percent; plum, guarana, grapefruit, ginger ale, etc. 6.4 percent.

One item that has recently been put into the market as a new drink and has seen a rapid expansion of demand is the canned milk coffee drink. This coffee drink, developed in 1973, had sales in 1974 of 9.12 million cases, and is expected to have sales of 32 million cases in 1977. Both tomato juice and vegetable juice are also achieving high popularity. The size of the market for tomato juice was two million cases (1 case = 200 g x 60 cans) in 1971, and increased to eight million cases in 1975. The market size for vegetable juice was 1.8 million cases in 1975, and is expected to exceed three million cases in 1977. Many large companies are taking part in the market competition for these two juice products.

Confections. The demands for caramels, hard candies, chewing gum, and cakes are decreasing, while demand for chocolates, biscuits, and rice candies, is increasing or is steady.

The products in this category which are exhibiting a remarkable growth are the snack foods which began to be put on the market around 1970. Among them, potato chips appeared three years ago and secured a market of 20 billion yen.

The reason for this remarkable expansion is that the product has a western taste which appeals to the taste of consumers who have grown tired of sweet confections.

For savory flavoring, a variety of materials are used such as cheese, meat, bacon, chicken flavor, extracts from fish and shellfish, vegetable powders, spices (onion, garlic, paprika, curry), products from hydrolyzed vegetable protein, and fermented seasonings.

Spices. The annual quantity of imported raw materials for spices exceeds 50,000 tons, 60-70 percent of which are used for processed foods (curry, ham, sausage, soup, and Worcester sauce), confections, pharmaceuticals, and the rest for the so-called spice products. The use breakdown of spice raw materials is divided into three categories: 50 percent for home use, 25-30 percent for commercial use, and 25-30 percent for the food industry. The pattern of consumption is becoming similar to that in the U. S. A. but the quantity of consumption is still only about one-fifth that in the U. S. A. However, consumption in Japan has increased greatly in these past ten years. There was a market of 3.0-3.5 billion yen in 1975 for processed spices in the forms of oleoresins, emulsions, adsorbates, and coatings (the capsule type is not used very much). Natural and processed spices are being used in their specific fields without competition.

Natural spices are steadily finding a route to tables in homes. In contrast, Worcester sauce and catchup, though long popular western tastes, are both losing popularity, with demand appearing steady. These products are being replaced by salad dressings and mayonnaise as well as by natural spices.

Fragrances

As seen from Table 2, 3,433 tons of cosmetic

Table 3. Consumption of Fragrances for Cosmetics by Category
(in kg)

Source : Japan Cosmetic Industry Association

Item	1972	1973	1974	1975	1976
Skin creams and milky lotions	54,822	64,435	69,387	69,979	73,769
Makeup foundations	8,010	8,886	9,801	11,214	11,523
Face powders	11,027	10,924	9,828	9,656	9,119
Skin lotions	62,913	68,355	60,729	62,553	64,152
Hair pomades, stick pomades	169,920	173,246	149,669	157,474	146,502
Hair creams	16,305	17,081	16,691	18,732	19,338
Cosmetic oils	4,376	4,642	4,670	4,932	5,422
Hair tonics	116,106	120,933	118,213	128,977	140,584
Perfumes and eau de Colognes	37,991	39,453	40,794	41,401	42,327
Lipsticks, cheek colors, eyebrow pencils	1,649	2,016	1,693	1,610	1,831
Others	178,944	219,075	191,283	204,081	223,476
Total	662,063	729,046	672,788	710,609	738,043

Table 4. Delivery Value of Cosmetics by Item in 1976

		('¥1,000)				
No.	Item	1976 (Jan.-Dec.)	Component ration(%)	Comparison with 75 (the * marks indicate negative growth)	Increase(%)	Contribu- tion ratio to increase
Skin care products						
1.	Vanishing creams	33,810,602	5.8	7,467,462	28.3	11.2
2.	Cold creams	36,825,894	6.4	5,070,971	16.0	7.6
3.	Cleansing creams	19,569,740	3.4	* 961,162	* 4.7	* 1.4
4.	Milky lotions	31,959,330	5.5	2,630,211	9.0	3.9
5.	Makeup foundations (liquid, paste, etc.)	43,411,891	7.5	7,295,173	20.2	10.9
6.	Skin lotions	59,350,856	10.2	6,970,788	13.3	10.5
7.	Beauty masks	15,051,867	2.6	1,752,135	13.2	2.6
	Sub-total	239,980,180	41.4	30,225,578	14.4	45.3
Hair care products						
8.	Hair pomades (incl. gel)	3,443,181	0.6	* 358,881	* 9.4	* 0.5
9.	Liquid hair dressings	9,904,228	1.7	862,612	9.5	1.3
10.	Hair creams	5,436,928	0.9	* 12,618	* 0.2	* 0.0
11.	Cosmetic oils	1,491,643	0.3	108,780	7.9	0.2
12.	Stick pomades	1,784,080	0.3	158,913	9.8	0.2
13.	Hair tonics and hair treatments	8,449,599	1.5	* 341,903	* 3.9	* 0.5
14.	Hair sprays	13,695,472	2.4	* 1,245,268	* 8.3	* 1.9
15.	Waveset lotions	2,937,103	0.5	209,792	7.7	0.3
16.	Shampoo	44,435,976	7.7	4,341,039	10.8	6.5
17.	Hair rinses	27,287,286	4.7	3,385,521	14.2	5.1
	Sub-total	118,865,496	20.5	7,107,987	6.4	10.7
Makeup products						
18.	Loose face powders	5,007,683	0.9	* 87,894	* 1.7	* 0.1
19.	Pressed face powders	31,993,251	5.5	3,508,972	12.3	5.3
20.	Miscellaneous face powders	113,265	0.0	8,380	8.0	0.0
21.	Lipsticks	28,138,512	4.9	3,557,314	14.5	5.3
22.	Cheek colors	7,594,400	1.3	2,472,056	48.3	3.7
23.	Eye-brow colors and mascaras	9,536,124	1.6	1,308,777	15.9	2.0
24.	Eye makeup preparations(eye shadows and eye liners)	18,300,884	3.2	3,078,714	20.2	4.6
25.	Nail polish preparations (incl. nail polish removers)	4,383,716	0.8	362,502	9.0	0.5
	Sub-total	105,067,835	18.1	14,208,821	15.6	21.3
Perfumes and eau de colognes						
26.	Perfumes	5,609,533	1.0	1,217,279	26.5	1.0
27.	Eau de colognes	13,153,521	2.3	1,218,723	10.2	1.8
	Sub-total	18,963,054	3.3	2,436,002	14.7	3.7
Men's toiletries (excl. hair care products)						
28.	Men's creams	2,569,651	0.4	137,191	5.6	0.2
29.	Men's emulsion lotions	1,791,210	0.3	* 439,803	* 19.7	* 0.7
30.	Men's skin lotions	2,558,543	0.4	* 244,751	* 8.7	* 0.4
31.	Miscellaneous men's toiletries	1,941,069	0.3	160,995	9.0	0.2
	Sub-total	8,860,473	1.5	* 386,368	* 4.2	* 0.6
32.	Others	22,231,805	3.8	2,156,139	10.7	3.2
Medicated cosmetics (Quasi-drugs)						
33.	Medicated skin creams	7,212,924	1.2	785,252	12.2	1.2
34.	Medicated skin lotions	7,595,565	1.3	3,043,049	66.8	4.6
35.	Medicated hair tonics and treatments	8,677,238	1.5	2,116,943	32.3	3.2
36.	Hair coloring preparations	20,409,151	3.5	2,620,122	14.7	3.9
37.	Miscellaneous medicated cosmetics	22,009,980	3.8	2,390,453	12.2	3.6
	Sub-total	65,904,858	11.4	10,955,819	19.9	16.4
	Total	579,873,701	100.0	66,703,978	13.0	100.0

This table was prepared based on the Japan Cosmetic Industry Association's statistics plus data on shampoos and rinses by MITI.

fragrances were produced in 1976, 13 percent more than in 1975, and 10 percent of the products were exported. It should be noted that, different from the case for synthetic aromatic chemicals, production and exports of cosmetic fragrances did not decrease so much after the oil shock, but rather have even been expanding. The imported quantity of 784 tons exceeded that in the preceding year by 58 percent.

Cosmetics. Table 3 summarizes the quantities of the fragrances which were used for cosmetics between 1972 and 1976; Table 4 shows shipments and increases over the preceding year for each type of cosmetic in 1976. The total quantity of fragrances used for cosmetics in 1976 was 738,043 kg. As for the major uses, about 19 percent of the fragrances was used for pomade, for stick pomade and for hair tonic.

Table 5. Production and Shipments of Shampoos

	Production (tons)	Shipments (tons)	% of preceding year	Shipments Value (Y1,000)	% of preceding year	Number of companies answering questionnaire
1971	44,666	43,967	113	20,196,626	139	38
1972	55,293	53,745	122	24,717,961	122	38
1973	58,822	59,596	111	30,811,417	125	71
1974	62,663	56,105	94	34,305,297	111	77
1975	55,540	56,516	101	40,519,994	118	76
1976	64,124	62,396	110	44,941,359	111	76

Production and Shipments of Hair Rinses

	Production (tons)	Shipments (tons)	% of preceding year	Shipments Value (Y1,000)	% of preceding year	Number of companies answering questionnaire
1971	12,767	12,514	-	9,277,293	-	31
1972	20,151	18,778	150	12,907,768	139	29
1973	24,542	24,647	131	17,331,301	134	55
1974	25,976	24,461	99	18,012,175	104	57
1975	30,942	29,690	121	23,901,765	133	60
1976	37,081	34,878	117	27,287,286	114	65

Other uses were for creams and emulsions (about 9.9 percent), face lotions (8.7 percent), and perfumes and eau de cologne (5.7 percent). As to the shipments of each kind of cosmetic, basic cosmetics occupy the largest portion of the whole, 41.4 percent, followed by cosmetics for the hair (20.5 percent), makeup (18.1 percent), and cosmetics for medical use (11.4 percent). The distribution is featured by the extremely small shares for perfumes (1.0 percent) and eau de cologne (2.3 percent). However, with respect to the increase over the preceding year, perfumes and eau de cologne increased by 26.5 and 10.2 percent, respectively, which values are suggestive of the future of these fragrance products.

Shampoos and rinses. Table 5 summarizes the quantities and value for the production and shipments of shampoos and rinses for the period 1971-1976. The values for 1972/1973 for both

products greatly exceed the values in the other periods. This was because, in the midst of the oil panic, the publicity given to material shortages caused consumers to enlarge their own stocks. As a result of this enlargement, in 1974 new purchases were reduced, resulting in a negative growth (in quantity) during the depression. At present, a positive growth at an annual rate of about 10 percent has been recovered.

Soaps and detergents. With respect to soaps and detergents, Table 6 summarizes the 1976 statistics on quantities and values for production and shipment, and on inventory. Increases in shipments over the preceding year's data are: bathing soaps 20 percent; laundry soaps 16 percent; powder home detergents eight percent, and liquid home detergents 21 percent. Among home detergents, the liquid detergents recorded a remarkable increase in demand, for which the

Table 6. Production, Shipments and Inventory of Synthetic Detergents in 1976 (in tons)

Item	Production	Captive Use	Shipments	Shipments value (sales)(Y1,000)	% of preceding year			Inventory * (%)	
					Production	Shipments Qty	Value	Dec.76	Dec.75
Soap									
Toilet soaps	96,031		95,291	58,467,715	127	120	122	42	34
Laundry soaps									
Cake	10,791	3	10,752	2,079,384	103	98	107	71	46
Powdered type	23,233	25	23,669	3,367,863	108	116	116	43	75
Textile soaps	5,668	7	5,523	883,565	115	108	103	97	56
Industrial soaps	4,204	124	4,064	616,984	75	72	102	36	42
Others	7,265	626	6,627	1,703,934	163	147	142	83	105
Sub-total	147,192	785	145,926	67,119,445	120	116	121	46	43
Household Synthetic Detergents									
Powdered type	450,299	194	451,006	89,662,406	110	108	120	22	28
Liquid	228,327	30	222,621	48,729,166	125	121	134	39	18
Others	203	10	168	72,002	164	147	165	242	55
Sub-total	678,829	234	673,795	138,463,574	115	112	125	29	24
Total, syndets	778,873	234	771,798	149,538,738	115	112	124	35	28
Total, soaps and syndets	926,065	1,019	917,724	216,658,183	116	113	123	37	31
Total, shipments value				265,911,209			120		

* Remarks: Inventory is the percentage against shipments.

Table 7. 1976 Dentifrice Production in Japan and a Comparison with the Results of 1975

Item	Net weight (kg)		Increase over 1975	Rate of Increase	Value (Y1,000)		Increase over 1975	Rate of Increase
	1976	1975			1976	1975		
Toothpaste	47,947,485	45,263,410	2,684,075	5.9%	48,236,404	47,187,133	1,049,271	2.2%
Dental pasty powder	1,289,652	1,373,760	* 84,108	*6.1	1 109,683	1,242,271	* 132,588	*10.7
Other dentifrices	14,900	12,000	2,900	24.2	43,511	36,623	6,888	18.8
Total	49,252,037	46,649,170	2,602,867	5.6	49,389,598	48,466,027	923,571	1.9

Note: The * marks show negative growth

great demand increase for liquid heavy synthetic detergent is responsible.

Toothpastes and mouthwashes. Table 7 shows the quantities and values for shipments of toothpaste and related products during 1976. As compared with the 1975 data, toothpaste increased by 5.9 percent in quantity and 2.2 percent in value. The percentage of toothpaste amounted to 97 percent of the sum of all these products. The value of these products exported in 1976 was 91.25 million yen.

In order to predict the growth of the market for cosmetic fragrances in Japan, it is necessary to estimate the increase in demand for the fragrance products (perfumes, colognes, and toilet water). When the Japanese come to use these fragrance products as Westerners do, they can really be regarded as a "fragrance enjoying people."

There has been a steady increase in sales of fragrances in Japan for the period of 1970-1976, especially for cologne and toilet water. However, as compared with the U. S. A. based on value, for example, Japan is using fragrance products in a relative quantity of 1/10, and the amount consumed per capita in Japan is a low 1/7 of that in the U. S. A. Thus, the market is still small enough to have ample room for growth.

Rates of increases in sales for perfumes and

cologne are shown in figure 3. An increase in demand, except for cologne, of 20-30 percent is seen in 1974, the year of the oil shock.

One feature concerning the sales of fragrance products is the active purchase by men. Figure 4 shows the share occupied by cologne for men's use in the total sales of fragrance products; though having been only about 15 percent between 1970 and 1973, it showed a steady growth to 20 percent in 1974, 25 percent in 1975, and 30 percent (forecast) in 1976.

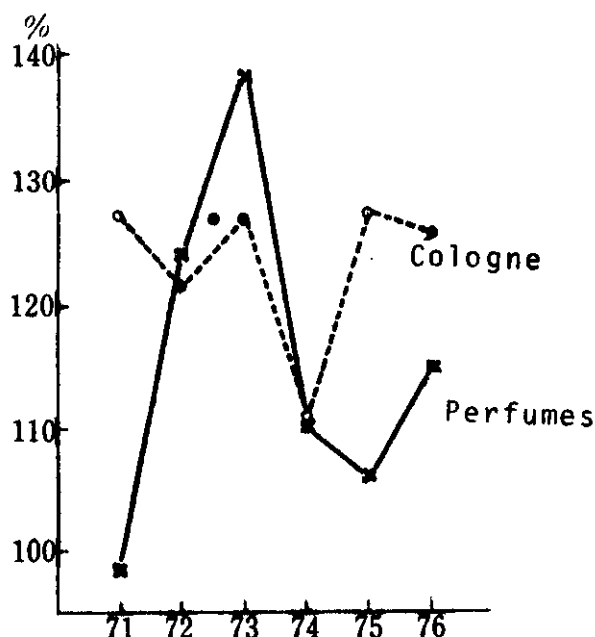


Figure 3. Trends in perfume and cologne sales indexes from 1971 to 1976.

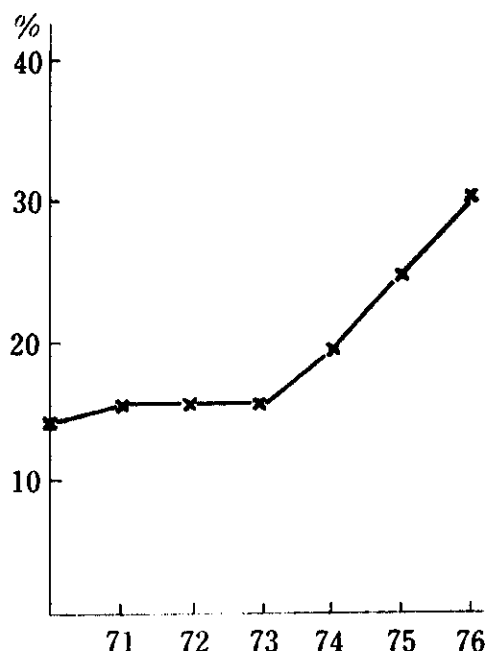


Figure 4. Share of men's cologne in total fragrance sales.

Thus, it may be concluded that fragrance products in Japan, now still in a stage of growth, are forming the bud of a large, blossoming market in the future.

Proceedings of the V International Congress of Essential Oils, Rio de Janeiro, Brazil, in 1971, including the 95 papers presented at the Congress, is available in a soft-cover bound volume at \$20 per copy.

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