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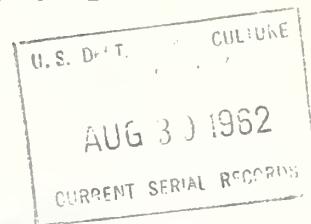
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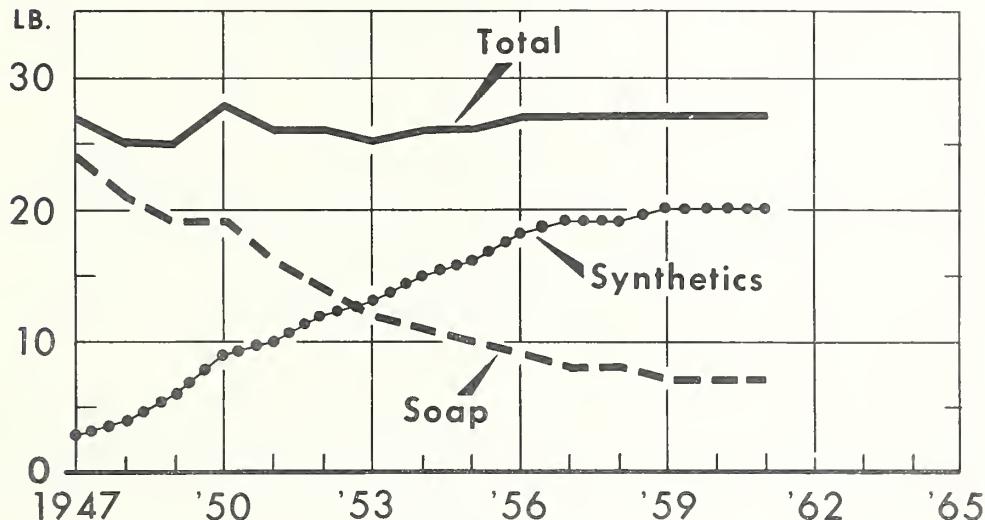
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SOAP CONTINUES TO DECLINE AS AN OUTLET FOR FATS AND OILS

By
George W. Kromer



CONSUMPTION OF SOAP AND SYNTHETIC DETERGENTS PER PERSON



U. S. DEPARTMENT OF AGRICULTURE

NEG. ERS 1112-62 (5) ECONOMIC RESEARCH SERVICE

While total consumption of soap and synthetic detergents in the United States has remained steady since World War II, at about 27 pounds per person annually, the separate use of each has shown a scissor-like trend.

Consumption of synthetic detergents rose sharply from 3 pounds per capita in 1947 to a record 20 pounds in 1959 and has remained on this plateau. On the other hand, use of soap during the same period

dropped from 24 pounds per person to only 7 pounds.

Declining soap consumption has been accompanied by reduced use of fats and oils in these products, dropping from 2.4 billion pounds in 1947 to 0.9 billion in 1961, the lowest of record. Use of fats and oils in soap probably will continue to slide off, at a slower rate, as synthetics command more of the market. (See page 23).

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Soap Continues To Decline As An Outlet for Fats and Oils
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George W. Kromer

Soap-making, the most important single non-food end use for fats and oils, has been declining since the end of World War II, reflecting the capture of a large part of this market by synthetic detergents. The main segment of the industry in which synthetics have not as yet made much progress is in the toilet bar area. The reason is because of synthetics stronger defatting characteristic which is desirable for laundry purposes but not in a toilet article. If the synthetic detergent industry makes an all detergent toilet bar acceptable by consumers for use on the skin, it would reduce the soapers demand for fats and oils even further.

Most synthetic detergents are made from petroleum sources. Before World War II, the cleanser-making industry had been dependent on natural fats and vegetable oils. Experience had shown that the supply of these fats and oils raw materials was always jeopardized in times of national emergencies. In comparison, synthetic detergents represented major uses for some chemicals derived from petroleum, and the prices and supplies of these are relatively stable.

As a result of these developments, the use of fats and oils in soap manufacture dropped from 2.4 billion pounds in 1947 to 0.9 billion pounds in 1961, only about 37 percent as much as the 1947 postwar peak.

Expanding Use of Detergents Offsets Drop in Soap Per Person

The combined usage of soap and synthetic detergents per capita has remained steady since World War II at about 27 pounds (product weight basis) annually (see cover chart). However, the separate use of each has shown a scissor-like trend, with synthetics offsetting the reduction in soap. Soap consumption dropped sharply from 24 pounds per capita in 1947 to only 7 pounds in 1959 and has averaged only fractionally lower since then. Use of synthetic detergents has increased from 3 pounds per person in 1947 to a record 20 pounds in 1959 and has remained on this plateau. These data are based mainly on sales estimates by The Soap and Detergent Association (formerly the Association of American Soap and Glycerine Producers, Inc.)

Output of synthetic detergents in 1961 was estimated at a record 3.8 billion pounds, nearly 4 percent above 1960. The combined production of synthetics and soap in 1961 also was a record high. But soap production, at 1.2 billion pounds in 1961, was down about 5 percent from 1960 and the lowest of record.

Total domestic disappearance of soap and synthetic detergents has shown a strong uptrend, rising from 3.8 billion pounds in 1947 to a record 4.8 billion in 1961. This increase of 1.0 billion pounds or 26 percent growth in use for the entire 15 year span took place while detergents were replacing soap (table 12).

Table 12.--Soap and synthetic detergents: Supply and disposition, 1935-61

Year	Supply						Disposition					
	Estimated sales 1/			Exports			Use of soap in: Military			Domestic Disappearance		
	Synthetic			Imports			shipments of synthetic rubber 4/			Civilian per capita		
	Soap 2/	deter- gents 3/	of soap	Total	of soap 4/	rubber 5/	synthetic	excluding relief 6/	Total	Soap	Synthetic	detergents
	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Lb.	Lb.	Lb.
Average												
1935-39	3,105	10	7	3,122	66	---	---	3,057	24	24	7/	
1940	3,273	30	5	3,308	67	---	---	3,241	25	25	7/	
1941	3,886	40	11	3,937	84	1	50	3,802	29	29	7/	
1942	3,652	50	4	3,706	59	2	120	3,525	27	27	7/	
1943	3,597	75	8	3,680	59	22	350	3,249	26	25	7/	1
1944	4,142	125	1	4,268	52	89	400	3,727	30	29	1	
1945	3,911	150	3	4,064	129	94	400	3,441	28	27	1	
1946	3,085	275	8	3,368	157	72	70	3,069	23	21	2	
1947	3,650	408	1	4,059	138	47	40	3,834	27	24	3	
1948	3,180	636	1	3,817	92	50	34	3,641	25	21	4	
1949	2,985	864	1	3,850	80	46	40	3,684	25	19	6	
1950	2,958	1,443	1	4,402	76	59	40	4,227	28	19	9	
1951	2,510	1,565	1	4,076	69	104	85	3,818	26	16	10	
1952	2,275	1,856	1	4,132	65	88	90	3,889	26	14	12	
1953	1,986	2,118	1	4,105	63	94	95	3,853	25	12	13	
1954	1,751	2,468	1	4,220	59	68	85	4,008	26	11	15	
1955	1,644	2,652	1	4,297	55	105	78	4,059	26	10	16	
1956	1,595	2,995	1	4,591	59	117	78	4,337	27	9	18	
1957	1,500	3,253	2	4,755	66	122	76	4,491	27	8	19	
1958	1,406	3,354	1	4,761	39	115	73	4,534	27	8	19	
1959	1,312	3,562	2	4,876	34	151	68	4,623	27	7	20	
1960	1,293	3,646	2	4,941	47	157	65	4,672	27	7	20	
1961 8/	1,231	3,774	2	5,007	33	152	68	4,754	27	7	20	
1962												

1/ Based on estimates of the Soap and Detergent Association. Data are on the built, finished-weight basis.

2/ Excludes scouring cleansers and liquid soaps. 3/ Includes only those solids and liquids with end-uses and characteristics similar to soap. Excludes scouring cleansers and shampoos where possible. 4/ Beginning 1947 includes shipments in CARE packages. 5/ From Office of Rubber Reserve, R.F.C. through 1954. Estimated by ERS since then. 6/ Estimates based in part on data given in Statistical Yearbook of the Quartermaster Corps for 1947. 7/ Less than one-half pound.

8/ Preliminary.

Table 13.--Soap: Fats and oils used, by kind, 1925-61 1/

Year	Inedible	Whale			Palm	Coconut	Kernel	Other	hard	Soft	Second-ary fats	Rosin	Tall oil	Total saponifiable materials
	tallow and fish oils	and	Palm oil	Coconut oil	oil	kernel oil	oil	oils 2/	oils 3/	oils 4/	and oils 4/			
Average	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.
1925-29	684	125	133	314	56	7	92	162	94	---	---	1,666		
1930-34	695	107	175	332	17	4	64	171	106	---	---	1,670		
1935-39	787	160	100	304	42	15	54	200	110	---	---	1,771		
1940	1,043	108	85	397	5/	43	47	170	80	---	---	1,972		
1941	1,368	76	130	484	1	35	50	190	105	---	---	2,438		
1942	1,528	72	56	140	1	20	53	190	99	---	---	2,160		
1943	1,360	45	33	142	2	121	27	270	120	11	---	2,130		
1944	1,530	51	20	132	4	243	28	303	193	29	2,534			
1945	1,364	114	24	59	32	152	11	364	122	30	2,273			
1946	1,210	40	7	185	19	46	16	335	75	25	1,957			
1947	1,526	43	1	511	5/	28	9	227	80	16	2,443			
1948	1,451	35	1	417	3	25	9	181	53	18	2,193			
1949	1,346	10	1	282	5/	27	10	156	40	14	1,887			
1950	1,363	1	3	257	5/	66	9	174	43	13	1,929			
1951	1,195	---	3	197	---	41	9	149	38	22	1,654			
1952	1,084	---	3	204	5/	5	8	137	30	15	1,485			
1953	1,026	5/	4	175	5/	5/	6	135	20	14	1,403			
1954	907	---	8	175	6	5/	5	135	19	12	1,267			
1955	864	---	12	173	5	5	6	116	18	14	1,213			
1956	813	5/	4	177	1	2	3	102	16	17	1,135			
1957	789	---	2	173	---	1	1	98	9	12	1,086			
1958	727	---	1	161	---	---	1	86	7	12	995			
1959	729	---	5	144	11	---	1	34	6	23	953			
1960	746	---	10	145	12	---	---	23	3	15	953			
1961 6/	721	---	6	138	12	---	1	21	5/	12	911			
1962														

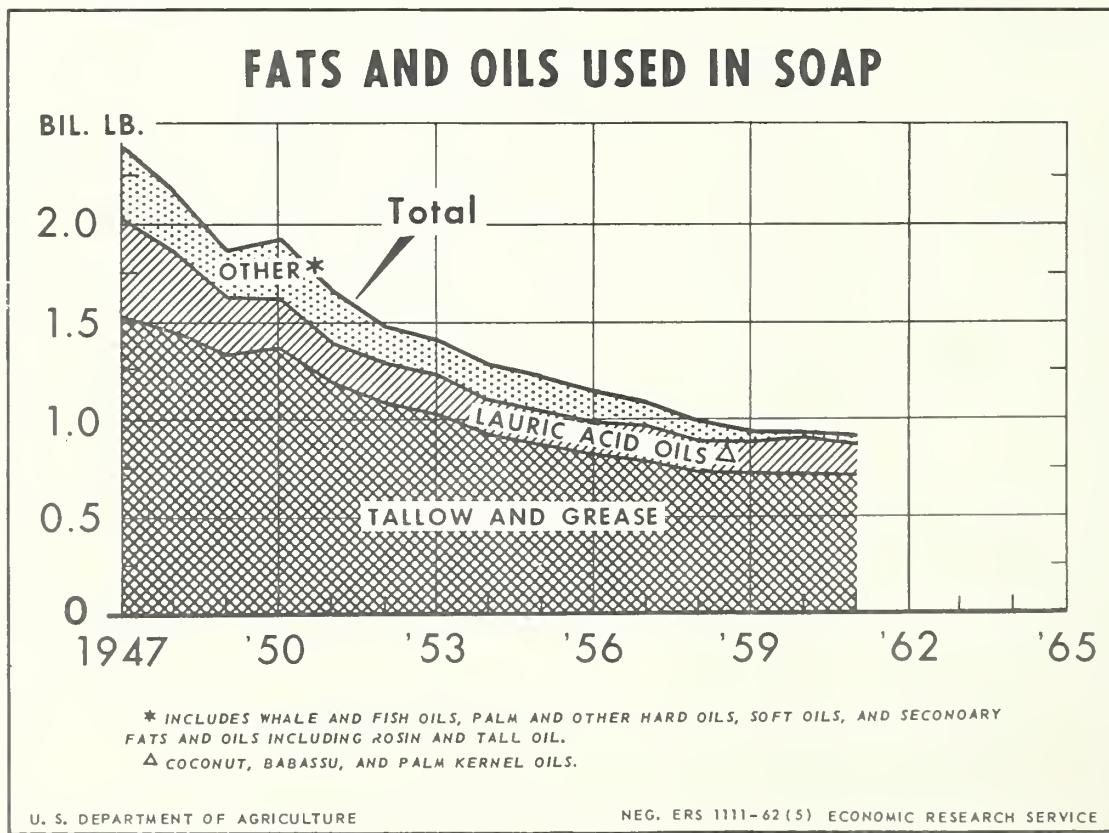
1/ Prior to 1949, most of the fats and oils used in synthetic detergents are believed to have been reported as used in soap. Beginning 1949, this use of fats and oils is entirely included in "other insaponifiable products" and thus is excluded from the figures shown in this table. 2/ Includes beef fats, vegetable tallow and babassu. 3/ Includes the following oils: Soybean, cottonseed, corn, castor, peanut, olive, linseed, and 10% olive, 20% castor, 15% linseed, 10% cottonseed, 10% corn, 10% babassu, 10% soybean, 10% cottonseed, 10% linseed, 10% castor, 10% peanut, 10% olive, 10% babassu. 4/ Includes inedible animal stearine, grease (lard) oil, tallow oil, fats and other soap stock, red oil, stearic acid and other fatty acids. 5/ Less than 500,000 pounds. 6/ Preliminary.

Soap exports and shipments to U. S. Territories have also trended downward in the post-World War II era. From the record high of 157 million pounds in 1946, they declined some nearly every year to reach 33 million in 1961. This is only one-half as much as the 1935-39 average export volume.

Fats and Oils Used in Soap in 1961 Lowest of Record

Declining soap sales have, of course, been accompanied by reduced use of fats and oils in these products. Use of saponifiable materials (fats, oils, tall oil, and rosin) in soap in 1961 was 911 million pounds, down 4 percent from the year before and the smallest of record which dates back to 1912. With the exception of 1960, fats, and oils used in soap manufacturing has dropped some every year since 1950 when 1,929 million pounds were used (table 13.)

Inedible tallow and grease are by far the major hard fats used by the U. S. soap industry in the manufacture of slow-lathering products. Coconut oil is still the major oil used in quick-lathering products. These fats and oils have just about replaced all other hard and soft oils used in soap, except low-priced refiners foots and other secondary materials. Among the saponifiable materials, inedible tallow and grease together were 79 percent of materials used in 1961 compared with 44 percent in 1935-39. Coconut oil had 15 percent of this market in 1961 compared with 17 percent in the earlier period.



Outlook

Synthetic detergents likely will continue to displace soap but at a much slower rate than in the past 15 years. This means that the soap-making industry will continue to decline as a market outlet for animal fats and vegetable oils. The synthetics meet an essential need because they are versatile and can have tailor-made properties for particular cleaning and scouring jobs. Expansion of markets for them will continue as new demands develop.

The output of tallow and grease, the major soap fat, is expected to continue to expand and the surplus above domestic requirements will become even larger. Expanded markets in feed uses for livestock can take only a part of this increase. The only other expandable outlets in view at this time are the export market (last year we exported nearly half of the tallow and grease produced) and the fatty acid use market. Prices will have to continue low if these markets are to absorb the surpluses.

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