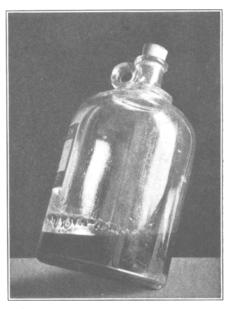
## Some Effects of Atmospheric Oxidation of Cod Liver Oil

A gummy residue, rancidity, acid taste, and destruction of Vitamin A result from storage in contact with air

N order that we might have definite information concerning the results of storing cod liver oil in partially filled containers, a number of flint glass jugs were filled onequarter full of cod liver oil and stored under a variety of light and temperature conditions. The jugs have never been opened, yet there was sufficient oxygen in the air that they contained to produce easily recognizable oxidized oil. The accompanying photograph clearly shows the gummy oxidized oil attached to the side of the jug. Without doubt, the oil is very rancid and of a decidedly acid taste. The most serious effect of light and air on oil stored under such conditions is the destruction of its vitamin content.

In our October issue, we referred to a paper, "Effect of Light on the Vitamin A Content of Cod Liver Oils," which contained the results of a study made by the research laboratory. If you will recall, the results of that investigation showed that when cod liver oil is stored in clear glass bottles, exposed to the light, the vitamin A content of the oil is more or less destroyed depending upon the length of storage and the intensity of the light in which the oil is stored.

Drummond and Zilva have also shown that when cod liver oil was



The effect of oxidation in a partially filled glass jug. Note the gummy, oxidized oil on the side of the jug

stored in partially filled containers, the vitamin content was markedly diminished. If the oil was stored in bottles filled almost to the top, and tightly stoppered, the vitamin potency was preserved for two years.

From time to time, we receive requests to supply our oil in bulk. The above photograph is printed in order that our readers may visualize for themselves the possible consequence of cod liver oil standing in partially filled containers.

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## February Imports of Olives, Coconut Meat, Coconut Oil and Copra, Peanuts and Peanut Oil, and Edible Olive Oil

Coconut meat,

						Coconut	
a				s in bri			d, cut, etc.
Countries			allons	$\operatorname{Dol}$		Pounds	Dollars
France			24	_	181		
Greece			4,333		,477	• • • • •	
Italy			6,150		,716	• • • • • •	• • • • •
Portugal			1,512		,324	• • • • • •	• • • • •
Spain			32,365 2	402	$^{,924}_{3}$	• • • • • •	
Canada Cuba			6		12		
Peru			9		18		
Ceylon					•::	443,525	37,310
Hongkong			28		33		
Philippine Islands						2,179,794	194,470
		-				<del></del>	
Total	<i>.</i>	49	94,429	468	,688	2,623,319	231,780
		-	Cop			Coconu	
Countries			nds	Dolla		Pounds	Dollars
			8,814		825		• • • • • • •
Jamaica			2,600		639	100	$\begin{array}{c} \dots \dots \\ 25 \end{array}$
Dominican Republic			7,242			180	-
Japan, including				1.002	088 948 1	6,153,104	1,270,664
Philippine Island British Oceania .			5,902	62,			1,210,001
French Oceania.			0,958		745		
rienen Oceania .							
Total		. 25,040	0,570	1,109,	692 1	6,153,284	1,270,689
		PE	ANUT	'S			
	~1			NT.L.	L-11-4	D	4 -21
		llad					ווח דנות
Countries		elled	Po	Not s			nut oil Dollars
Countries	Pounds	Dollars		unds	Dollars	Pounds	Dollars
France	Pounds	Dollars		ounds 	Dollars	Pounds 57,326	Dollars 6,392
France Germany	Pounds 54,125	Dollars 4,328		ounds	Dollars	Pounds 57,326	Dollars 6,392
France Germany Netherland	Pounds 54,125	Dollars 4,328		ounds	Dollars	Pounds 57,326  17,661	Dollars 6,392
France Germany Netherland Spain	Pounds 54,125	Dollars 4,328		220	Dollars	Pounds 57,326 17,661	Dollars 6,392  1,987
France Germany Netherland Spain Canada	Pounds 54,125	1,328	•	220	Dollars	Pounds 57,326  17,661  87,440	Dollars 6,392  1,987  8,894
France Germany Netherland Spain Canada China	Pounds 54,125  5,446,745	Dollars 4,328	37	220 24,500	Dollars	Pounds 57,326  17,661  87,440 3,449	Dollars 6,392  1,987  8,894 400
France Germany Netherland Spain Canada China Hongkong	Pounds 54,125	4,328  235,476	37	220	Dollars	Pounds 57,326 	5 Dollars 6,392  1,987  8,894 400 12,977
France Germany Netherland Spain Canada China	Pounds 54,125 5,446,745 3,652	4,328 235,476 488	37	220  4,500 4,400	Dollars	Pounds 57,326 	Dollars 6,392  1,987  8,894 400 0 12,977
France Germany Netherland Spain Canada China Hongkong	Pounds  54,125  5,446,745 3,652 1,057	4,328 235,476 488	3 37	220  4,500 4,400	Dollars	Pounds 57,326 	Dollars 6,392  1,987  8,894 400 0 12,977
France Germany Netherland Spain Canada China Hongkong Japan, incl. C	Pounds  54,125  5,446,745 3,652 1,057 5,505,579	235,476 488 21 240,313	3 37 37 40	220 4,500 4,400 4,700 3,820	Dollars 26 14,626 499 1,234 16,385	Pounds 57,326 	Dollars 6,392  1,987  8,894 400 0 12,977
France Germany Netherland Spain Canada China Hongkong Japan, incl. C	Pounds  54,125  5,446,745 3,652 1,057 5,505,579	235,476 4,828 235,476 488 21	3 37 37 40	220 4,500 4,400 4,700 3,820	Dollars 26 14,626 499 1,234 16,385	Pounds 57,326 	Dollars 6,392  1,987  8,894 400 0 12,977
France Germany Netherland Spain Canada China Hongkong Japan, incl. C	Pounds  54,125  5,446,745 3,652 1,057 5,505,579	235,476 488 240,313	37 37 2 40 C OLIV	220 4,500 4,400 4,700 3,820	Dollars 26 14,626 499 1,234 16,385	Pounds 57,326 	Dollars 6,392  1,987  8,894 400 0 12,977
France Germany Netherland Spain Canada China Hongkong Japan, incl. C	Pounds  54,125  5,446,745 3,652 1,057 5,505,579	235,476 488 21 240,313 Packa	3778 2 2 40 C OLIV	220 4,500 4,400 4,700 3,820 YE OII	Dollars 26 14,626 499 1,234 16,385	Pounds 57,326 	Dollars 6,392  1,987  8,894 400 12,977  30,650
France Germany Netherland Spain Canada China Hongkong Japan, incl. C	Pounds  54,125  5,446,745 3,652 1,057 5,505,579	235,476 488 21 240,313 Packa	373 373 3 40 2 OLIV ges wei	220 4,500 4,400 4,700 3,820 YE OII	Dollars 26 14,626 499 1,234 16,385	Pounds 57,326 	Dollars 6,392  1,987  8,894 400 12,977  30,650
France Germany Netherland Spain Canada China Hongkong Japan, incl. C.  Total  Countries	Pounds  54,125  5,446,745 3,652 1,057 5,505,579	235,476 488 21 240,313 Packa less th Pounds	373 373 3 40 2 OLIV ges wei	220 4,500 4,400 4,700 3,820 VE OII ghing ounds Oollars	Dollars 26 14,626 499 1,234 16,385	Pounds 57,326	Dollars 6,392  1,987  0 8,894 400 12,977  30,650
France Germany Netherland Spain Canada China Hongkong Japan, incl. C.  Total  Countries France	Pounds  54,125  5,446,745 3,652 1,057 5,505,579	235,476 488 21 240,313 EDIBLE Packa less th Pounds	373 373 40 COLIV	220 4,500 4,400 4,700 3,820 VE OII ghing ounds Jollars 16,286	Dollars 26 14,626 499 1,234 16,385	Pounds 57,326 17,661 87,440 3,449 118,250 284,126  Pounds 567,125	Dollars 6,392  1,987  0 8,894 400 12,977  30,650
France Germany Netherland Spain Canada China Hongkong Japan, incl. C  Total  Countries France Italy	Pounds  54,125  5,446,745 3,652 1,057 5,505,579	235,476 4,328 235,476 488 21 240,313 EDIBLE Packa less th Pounds 76,769 2,519,477	373 373 2 2 40 C OLIV ges wei an 40 ps	220 4,500 4,400 4,700 3,820 VE OII ghing ounds Oollars	Dollars	Pounds 57,326	Dollars 6,392  1,987  8,894 400 12,977  30,650
France Germany Netherland Spain Canada China Hongkong Japan, incl. C.  Total  Countries France Italy Spain	Pounds 54,125 5,446,745 3,652 1,057 5,505,579	235,476 488 21 240,313 EDIBLE Packa less th Pounds	373 373 2 2 40 C OLIV ges wei an 40 ps	220 4,500 4,400 4,700 3,820 YE OII ghing ounds Dollars 16,286 94,355	Dollars	Pounds 57,326	Dollars 6,392  1,987  8,894 400 12,977  30,650 Dollars 121,187 164,580
France Germany Netherland Spain Canada China Hongkong Japan, incl. C.  Total  Countries France Italy Spain United Kingdom	Pounds 54,125 5,446,745 3,652 1,057 5,505,579	235,476 488 21 240,313 EDIBLE Packa less th Pounds 76,769 2,519,477 106,367 2,372	373 373 40 OLIV ges wei an 40 p	220 4,500 4,400 4,700 3,820 WE OII ghing ounds 16,286 94,355 21,866	Dollars	Pounds 57,326	Dollars 6,392  1,987  8,894 400 12,977  30,650 Dollars 121,187 164,580 268,996
France Germany Netherland Spain Canada China Hongkong Japan, incl. C.  Total  Countries France Italy Spain United Kingdom Canada	Pounds 54,125 5,446,745 3,652 1,057 5,505,579	235,476 4,88 21 240,313 EDIBLE Packa less th Pounds 76,769 2,519,477 106,367	3733 2 2 40 COLIV ges wei an 40 ps I 3 4 7 4 7 2 2 3	220 4,500 4,400 4,700 3,820 7E OII ghing ounds Dollars 16,286 94,355 21,866 532	Dollars	Pounds 57,326 17,661 87,440 3,449 118,250 284,126  Pounds 567,125 739,264 1,286,147	Dollars 6,392 1,987 1,987 0 8,894 400 12,977  30,650 ner Dollars 121,187 164,580 268,996
Germany Netherland Spain Canada China Hongkong Japan, incl. C  Total  Countries France Italy Spain United Kingdom Canada Syria	Pounds 54,125 5,446,745 3,652 1,057 5,505,579	235,476 488 21 240,313 EDIBLE Packa less th Pounds 76,769 2,372 5,799 276	373 2 2 3 40 COLIV ges wei an 40 p s I 3 4 7 2 2 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	220 4,500 4,400 4,700 3,820 VE OII ghing ounds 00llars 16,286 94,355 21,866 532 655 62	Dollars	Pounds 57,326 17,661 87,440 3,449 118,250 284,126 Pounds 567,125 739,264 1,286,147	Dollars 6,392 1,987 8,894 400 12,977 30,650  Dollars 121,187 164,580 268,996
France Germany Netherland Spain Canada China Hongkong Japan, incl. C.  Total  Countries France Italy Spain United Kingdom Canada	Pounds 54,125 5,446,745 3,652 1,057 5,505,579	235,476 488 21 240,313 EDIBLE Packa less th Pounds 76,769 2,372 5,799 276	373 2 2 3 40 COLIV ges wei an 40 p s I 3 4 7 2 2 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	220 4,500 4,400 4,700 3,820 7E OII ghing ounds Dollars 16,286 94,355 21,866 532 655	Dollars	Pounds 57,326 17,661 87,440 3,449 118,250 284,126 Pounds 567,125 739,264 1,286,147	Dollars 6,392  1,987  8,894 400 12,977  30,650 Dollars 121,187 164,580 268,996 