

NATIONAL CANNERS ASSOCIATION

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LEAD IN RAW AND CANNED FRUIT JUICES AND FRUIT JUICE DRINKS

The National Canners Association in cooperation with several other collaborating organizations is engaged in the collection of information on the lead content of canned products. As a part of this program, comparable samples of raw ingredients and canned product were obtained during the 1972 season from canning plants in several locations, to obtain an indication of the amount of lead naturally incorporated in the product as well as that contributed by the container.

Ingredient samples for grape and orange drink were collected at the filler bowl. The tomato juice line was sampled at the earliest available point and again at the filler. The fruit juices and drinks were packed in 404 x 700 plain (P) bodied or enamel lined (E) tinsplate containers and stored less than 2 weeks before analysis.

<u>Product</u>	<u>Sampling Point</u>	<u>Raw</u>				<u>Canned</u>		
		<u>Range</u>	<u>Avg.</u>	<u>#Samples</u>		<u>Body</u>	<u>Range</u>	<u>Avg.</u> <u>#Samples</u>
Grape Drink	Filler Bowl	0.01-0.01	0.01	2		E	0.03-0.05	0.03 6
Orange Drink	Filler Bowl		0.00	2		E	0.00-0.03	0.01 6
Tomato Juice	Blended raw Juice	0.05-0.29	0.14	6		P	0.04-0.47	0.16 36
	Filler Bowl	0.11-0.20		6				

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The following compilation of lead values in tomato juice was made as a result of an earlier NCA survey. The juice was packed in 1969 and samples were selected from major producing areas in proportion to their fraction of the total national production. Each sample was a composite of six No. 303, or similar size cans, or three 400 x 700 cans. The containers were either tinplate (plain bodied or enamel lined) or glass. They were analyzed after 8 to 14 months of storage.

<u>Product</u>	<u>Can Size</u>	<u>Body</u>	<u>Range</u>	<u>Avg.</u>	<u>#Samples</u>
Tomato Juice	307x512; 312x508; 400x700	P	0.12-0.88	0.36	40
	303x406; 307x512; 400x700	E	0.10-0.86	0.38	24
	32 Z	Glass	0.11-0.62	0.26	10

The following tabulation of lead values in canned fruit juices, drinks and nectars was taken from data obtained by analyses at the NCA and other collaborating laboratories.

Individual lead values obtained by various analytical methods in 22 juices, 10 drinks and 4 nectars canned in various sizes of plain bodied (P) or enamel lined (E) tinplate containers and stored for one to three years are reported in the table. Lead concentrations in the product range from a trace (T) i.e., less than 0.10 ppm to a maximum value of 1.84 ppm.

Lead Content of Various Canned Fruit Juices,
Drinks and Nectars NCA file data.

<u>Product</u>	<u>Age</u>	<u>Body</u>	<u>Can Size</u>	<u>Lead (ppm)</u>
Apple Juice	22 Mos.	I	202 x 308	0.37; 0.15; 0.24
Apple Drink	1970	I	404 x 700	0.20; 0.10; T
Apricot Nectar	1970	I	307 x 604	0.20; 0.10; T
Cherry-Pineapple Drink	1970	I	404 x 700	0.10; 0.20; T
Grape Drink	20 Mos.	F	202 x 306	0.16; 0.08; 0.21
"	1970	F	404 x 700	0.10; T ; T
Grapefruit Juice	23 Mos.	F	202 x 314	0.54; 0.29
"	1970	F	307 x 409	0.10; 0.10; T
"	1970	F	404 x 700	0.10; 0.20; T
"	--	F	--	0.72
"	--	F	--	0.43
Orange Juice	22 Mos.	F	202 x 314	0.35; 0.47; 0.67
"	1970	F	307 x 409	0.10; 0.10; 0.20
"	--	-	--	0.20; 0.10; 0.40
Orange Drink	1970	E	404 x 700	T ; 0.10; 0.10
Orange-Apricot Drink	1970	E	"	0.10; 0.90; 0.20
Orange-Grapefruit Juice	1969	F	"	0.20; 0.10; 0.30
Peach Nectar	1970	P	211 x 414	T ; T ; 0.20
Pear Nectar	20 Mos.	P	202 x 308	0.39; 0.54; 0.31
"	1970	P	211 x 414	0.10; 0.20; 0.10

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<u>Product</u>	<u>Age</u>	<u>Boily</u>	<u>Can Size</u>	<u>Lead (ppm)</u>
Pineapple Juice	1970	P	211 x 414	T ; 0.20; 0.10
"	1970	P	211 x 414	0.30
"	1969	P	307 x 409	0.20
"	1970	P	307 x 409	0.25
"	1969	P	502 x 408	0.20
"	1969	P	211 x 304	0.35
Pineapple-Orange Juice	1970	P	307 x 409	0.10; 0.20; 0.20
"	1969	P	404 x 700	0.20; 0.10; 0.30
Pineapple-Apricot Drink	1970	E	404 x 700	0.10; 0.10; 0.10
Pineapple-Grapefruit Drink	1970	E	211 x 414	T ; T ; 0.10
Pineapple-Pink Grapefruit Drink	1970	P	404 x 700	T ; T ; 0.10
Pineapple-Pear Drink	1970	P	"	T ; T ; 0.10
Prune Juice	24 Mos.	E	202 x 308	0.97; 1.84; 1.51
"	1969	E	211 x 414	0.80
"	1970	E	"	0.10
"	1969	P	"	T

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