ntitative Factors Ethyl Study -
1929

KE 0019088

May 2 1931

Table showing means and standard deviations with their respective probable errors for milligrams of lead per liter ofn urine for the groups as indicated.

Milligrams of lead per liter of urine

GROUP	MEAN	P.E.	SIGMA	P.E.
Tank Wagon Ethyl 101-150	.100	±.001	.010	±.0007
Garage Mechanics, Exposure 301-501	.094	±.005	.097	±.003
Filling Station, Ethyl 1-56	.079	±.007n	.080	±.005
Barrel Fillers, Plain 201-227	.058	±.009	.071	±.007
Barrel Fillers, Ethyl 251-272	.052	±.004	.030	±.003

May 2 1931

Table showing means and standard deviations with their respective probable errors for milligrams of lead per gram of faeces ash for the groups as indicated.

	Milligrams of lead per gram of ash in faeces.			
GROUP	MEAN	P.E.	SIGMA	P.E.
Tank Wagon, Ethyl 101-150	.170	±.009	.080	±.006
Barrel Fillers, Plain 201-227	.137	±.014	.106n	±.009
Garage Mechanics, Exposure 301-501	.131	±.005	.095	±.003
Barrel Fillers, Ethyl 251-272	.113	±.010	.094	±.007
Filling Station, Ethyl 1-56	.097	±.010	.094	±.007

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Table showing means and standard deviations with their respective probable errors for milligrams of lead per gram of faeces ash for the groups as indicated.

	Milligrams of lead per gram of ash in faeces			
GROUP	MEAN	P.E.	SIGMA	P.E.
Barrel Fillers, Plain 201-227	.137	±.014	.106	±.009
Garage Mechanics, Exp. 301-501	.131	±.005	.095	±.005
Tank Wagon Ethyl + 101-149	.119	±.013	.109	±.009
Barrel Fillers,Ethyl 251-272	.113	±.010	.094	±.007
Filling Station,Ethyl	.097	±.010	.094	±.007
+ indicates the exclusion of case number 150				

None of the differences between the means is significant.

Filling Station Ethyl.
Showing lead findings for the same individuals for 1927 and 19

	1927		1929		
	Mean P.E.mean	S.D. P.E.s.d.	Mean P.E.mean	S.D. P.E.s.d.	Inc dec for
Lead in faeces,mgrs.* (Total)	.322 ± .039	.255 ±.028	.236 ±.023	.152 ±.016	
Lead in faeces.* (Mgrs.-grm.ash)	.146 ± .020	.1129 ±.014	.106 ±.009	.058 ±.006	
Lead in urine.mgrs. (Total)	.188 ± .016	.118 ±.011	.100 ±.010	.073 ±.007	
Lead in urine (mgrs-liter)	.122 ± .015	.111 ±.010	.089 ±.012	.088 ±.008	

* Excluding Case#4 for 1927.

All values are stable as judged by their respective probable errors. The di
always in favor of 1929,but in three cases is certainly not statistically s
while in the remaining instance it is verging on significance.

Tank Wagon Ethyl
Showing lead findings for the same individuals for 1927 and

	I 9 2 7		I 9 2 9		
	Mean P.E.mean	S.D P.E. s.d.	Mean P.E.mean	S.D. P.E.s.d.	Incre or Decre for
Lead in faeces,mgrs. (Total)	.308 ±.025	.150 ±.071	.407 ±.038	.231 ±.027	+
Lead in faeces (Mgrs.-grm.ash.)	.109 ±.008	.047 ±.005	.142 ±.019	.117 ±.014	+
Lead in Urine (Total) ⊕	.171 ±.018	.131 ±.013	.098 ±.008	.058 ±.006	-
Lead in urine (mgrs.-liter) ⊕	.147 ±.019	.133 ±.013	.102 *.016	.119 ±.012	-

⊕Exclusive of Case#104

All constants are stable as indicated by their respective probable errors. T
in the case of the faeces is in favor of 1927, while in the case of the urin
favor of 1929. In no case, however, is the difference statistically signific

Tank Wagon Ethyl plus Filling Station Ethyl
Showing lead findings for the same individuals for 1927 and 1929

	1927		1929		
	Mean P.E.mean	S.D. P.E. s.d.	Mean P.E. mean	S.D. P.E. s.d.	Inc Dec for
Lead in faeces,mgrs. (Total) #	.316 ±.024	.212 ±.017	.315 ±.023	.211 ±.017	
Lead in faeces (Mgrs.-grm ash.)#	.129 ±.011	.101 ±.008	.123 ±.010	.092 ±.007	
Lead in urine (Total) +	.169 ±.012	.124 ±.008	.099 ±.006	.066 ±.004	
Lead in urine (mgrs.-liter) +	.133 ±.012	.123 ±.008	.092 ±.010	.107 ±.007	

#Excluding Case 4 for 1927
+Excluding Case 104

All constants are stable as indicated by their respective probable errors. Th
is always in favor of 1929 but except in the case of "Lead in the urine,total
statistically significant. The difference mentioned is more than five (5) tim
probable error and therefore may be looked upon as being significant.

Correlation coefficients

Garage Mechanics

Length of service and lead in faeces, mgs.per grm.ash	+.017 ±.056
Length of service and lead in urine, mgrs. per liter	+.023 ±.055
Length of exposure to ethyl gasoline and lead in faeces mgrs. per grm. ash	+.223 ±.099
Length of exposure to ethyl gasoline and lead in urine mgrms. per liter	-.243 ±.099

There is no significant correlation. All coefficients are less than four times their respective probable errors. The change of sign in the case of the last coefficient, of itself, has no significance. In the case of the first two coefficients, they are less than their own probable errors, in spite of the fact that the universe was much larger than in the case of the last two.