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Mutagenic N-Lox-Cyclophosphamides.

The mutagenicity of the following substances has been tested on the Berlin wild stock of *D. melanogaster* by means of the Basc method:

1. the phosphortriamide B 801; 2. the phosphordiamidomonoester B 518 (Cytosan),

and 3. the monoamidodiester B 525 (see table 1).

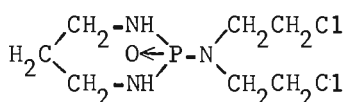
All drugs were applied by feeding on glass filter dishes as aqueous solutions. The mutagenic activity declined in the following manner: B 801>B 518>B 525. The differences in mutagenicity between B 801 and the other substances were especially evident in mature spermatozoa (brood I).

In all broods the mutagenic activity of both B 801 and B 518 was higher than that of B 518, although the differences between B 518 and B 525 were not statistically significant. The mutagenic events reported in this short communication were mainly restricted to post-meiotic stages of spermatogenesis.

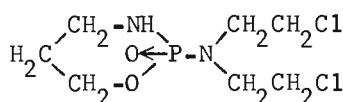
In this group of compounds the mutagenic activity was correlated with the chemical reactivity.

In contrast to the mutagenicity, the toxicity of the drugs in *Drosophila* declined in the sequence B 525>B 518>B 801. Furthermore, the three cyclophosphamides exerted sterilizing effects without significant correlations with the rates of recessive lethals or to their toxicity.

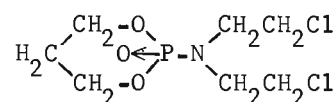
Table 1: Recessive sex-linked lethal mutations



B 801



B 518



B 525

N,N-bis-(β-chloroethyl)-  
N',N''-propylenephosphoric-  
acidtriamide

N,N-bis-( $\beta$ -chlorethyl)-  
N',O-propylenphosphoric-  
acidesterdiamide

N,N-bis-(β-chloroethyl)-  
O,O'-phosphoricacid-  
diestermonoamide

brood	Chrom. n	lethals n	%	Chrom. n	lethals n	%	Chrom. n	lethals n	%
a) Concentration: $10^{-2}$ M									
I	1249	14	1.1	1095	8	0.73	628	3	0.48
II	834	16	1.9	573	7	1.2	311	3	0.96
III	555	9	1.6	296	7	2.4	129	1	0.78
I-III	2638	39	1.5	1964	22	1.1	1068	7	0.66
b) Concentration: $2 \times 10^{-2}$ M									
I	1310	50	3.8	1037	9	0.87	224	1	0.45
II	511	18	3.5	424	15	3.5	82	1	1.2
III	75	4	5.3	82	4	4.9	-	-	-
I-III	1896	72	3.8	1543	28	1.8	306	2	0.65
duration of pairing: 3 days									
Control: $0.1 \pm 0.03\%$									