metabolic defect to which the ectoderm is particularly susceptible may underlie the morphological defects found in the progeny from amx females.

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Induction of mutations in D. melanogaster with O-Sulphobenzoic imide (saccharin).

Artificial sweeteners are of two types, namely cyclamates and saccharins. The cyclamates used in food stuffs and drinks belong to sodium and calcium salts of cyclamic acid. The cyclamates have been banned in various countries because of their genetic effects. The work on genetic effects of saccharin are scanty. Sram and Weidenhofferova (1969) have carried out experiments on D. melanogaster and found the chemical sodium saccharin to be not mutagenic while Sax and Sax (1968) have found sodium saccharin to cause chromosome breakage in onion root tip cells. The present work is undertaken with a view to find out whether or not saccharin (Madhurin marketed by M/s. Merck Sarabhai) is mutagenic in Drosophila melanogaster. 8.33% of solution of Madhurin (in 0.4% NaCl) was used so as to give a survival above 85% and 12.5% solution of Madhurin was used as to give a survival of 70%. 0.2 micro c.c. of the above solution was injected in the vicinity of the last two abdominal segments with the aid of a Agla micro-meter syringe. The flies were cultured on the usual standard Drosophila corn meal medium.

Sex linked recessive lethals and translocations were screened to study for any induced genetic damage. Six broods of three days interval were used.

Treated males were crossed individually with 3 virgin females of Y sc^{S1} In-49 sc^{8};bw;st stock. The F_1 females were mated individually with Y sc^{S1} In-49 sc^{8} males while the males were mated with bw;st females to score for sex linked recessive lethals and translocations respectively in F_2 generation. The results are presented in Table 1:

Brood	Sex linked recessive lethals									Translocations								
	Control			8.33% madhurin			12.5% madhurin			Control			8.33% madhurin			12.5% madhurin		
	T	l	%	T	l	%	T	l	%	T	t	%	T	t	%	T	t	%
A Brood	1366	3	0.219	227	-	-	269	-	-	1516	-	-	334	-	-	265	-	-
B Brood	1716	8	0.466	208	1	0.48	256	-	-	1496	-	-	217	-	-	249	-	-
C Brood	1894	3	0.26	209	-	-	233	-	-	1668	-	-	235	-	-	213	-	-
D Brood	1599	7	0.43	234	1	0.42	253	1	0.23	1539	-	-	212	-	-	235	-	-
E Brood	1015	0	-	215	-	-	251	-	-	1321	-	-	240	-	-	236	-	-
F Brood	1073	3	0.27	218	-	-	167	-	-	1367	-	-	154	-	-	256	-	-

T = Total number of X chromosomes or F_1 sons scored
l = lethals recorded
t = translocations recorded

The chi-square test has been done to compare the following groups: (1) control versus 12.5% madhurin; (2) control versus 8.33% madhurin. The results of statistical analysis are presented in Table 2:

Chi-square values for the differences in sex linked recessive lethals for the groups compared.

Group	Brood A	Brood B	Brood C	Brood D	Brood E	Brood F
Control vs 8.33%	-	0.0032	-	0.000064	-	-
Control vs 12.5%	-	-	-	0.1233	-	-