Table 1. Frequencies of ADH alleles in strains.

Strains	No.indiv. analyzed	% FF	% FS	% SS
wild	84	100	--	--
sepia	96	100	--	--
safranin	150	100	--	--
cardinal	95	100	--	--
multichromosomal	150	--	--	100

Table 2. Frequencies of ADH alleles in populations.

Populations	No.indiv. analyzed	% FF	% FS	% SS
wild/sepia w/alcoh.	106	100	--	--
wild/sepia w/o alcoh.	87	45	40	15
wild/safr. w/alcoh.	86	100	--	--
wild/safr. w/o alcoh.	80	40	47	13
wild/card. w/alcoh.	85	100	--	--
wild/card. w/o alcoh.	78	32	44	24
wild/multichr. w/alcoh.	141	100	--	--
wild/multichr. w/o alcoh.	96	19	43	38

The four polymorphic populations are in Hardy-Weinberg equilibrium and there is no excess of either homozygotes or heterozygotes in any of them.

In the multichromosomal strain where the In(2L)t was fixed (Najera & de Frutos 1984), the S allele for the ADH is also fixed, therefore there seems to be a linkage disequilibrium between them.

References: Najera, C. & J.L. Mensua 1983, DIS 59:94-95; Najera, C. 1984, DIS 60:154-156; Najera, Ca. & R. deFrutos 1984, DIS 60:156-157.

Nájera, C. and J.L. Ménsua. University of Valencia, Spain. Study of eye colour mutant variability in natural populations of **D.melanogaster**. I. Cellar.

Two samples of **D.melanogaster** were captured at two different times: autumn and spring. The place was a wine cellar in Requena (Valencia). 68 and 80 females, respectively, were analyzed from each collection for the purpose of searching for eye colour mutants. The F_2 of eight pairs from the F_1 generation of each wild female was analyzed.

The number of heterozygotic females for eye colour mutations was 36 (in autumn) and 42 (in spring); so 52.94% and 52.90% of the female populations were carriers of one eye colour mutation in heterozygosis.

The number of total mutations was 42 (in autumn) and 52 (in spring), that is to say 0.61 and 0.65 mutations per fly. Adding the results of both captures, 52.70% of the females were heterozygotic and there were 0.63 mutations per fly in the cellar.

The distribution of mutations inside the populations was as follows:

	Autumn	Spring
females with 1 mutation	28	35
females with 2 mutations	7	4
females with 3 mutations	0	3

both fit a Poisson distribution (X^2=1.935 ns; X^2=4.117 ns) although there is a non-significant lack of individuals without mutations.

Table 1. Frequencies of intra- and interpopulational alleles. No. of alleles in each population and total types of mutations.

	Autumn	Spring	Aut.-Spr.
Analyzed mutations	42	52	
No. of crosses completed	409	497	902
No. of allelic crosses	29	66	90
Freq. of allelic crosses	[7.6±1.4%]	[13.3±1.4%]	[10.0±1.0%]
1 allele	22	12	
2 alleles	5	6	
3 alleles	1	3	
4 alleles	-	1	
7 alleles	1	-	
10 alleles	-	1	
Types of mutations	29	28	

Considering that the loci number reported for eye colour mutations at the moment is about 112, the percentage of heterozygotic loci for eye colour mutants in these populations will be 25.89 (for the autumn population and 25.00 (for the spring population).

Intra e interpopulational allelism tests were carried out. Table 1 shows the results.

The distribution of alleles in both populations was random (X^2=1.800 ns; X^2=4.075 ns) although the dispersion coefficients were too high and there was a tendency to find an excess of lack of alleles on one hand and excessively high number of alleles on the other.