Erickson, J. Western Washington State College, Bellingham, Washington. A viable and fertile homozygous Curly.

A scheme for the production of homozygous SD males, developed by Dan Hartl, depends upon the meiotic drive of SD and Curly lethality: the final cross, Cy SD(NH)-2/cn bw ♂♂ x Cy bw/SD-72 ♀♀ produces, presumably, only Cy SD(NH)-2/SD-72 progeny. In fertility checks of males produced by this scheme crossed to cn bw ♀♀, an occasional case turned up of a male considerably more fertile than expected, and with only Curly progeny. These progeny are of four types, in approximately equal numbers: Curly males and females, and Curly males and females with a light brown eye color. (This light brown eye color is also seen in a Cy bw/cn bw^2 stock used in the scheme. Ocelli have slight color - presumably the Cy bw does not carry cn^2.)

A number of possibilities were considered to account for the aberrant males. Although they were not "extreme Curly, dwarf flies" as called for in Bridges and Brehme, the only explanation fitting both their origin and their progeny was that they were Cy SD(NH)-2/Cy bw.

To test this, I mated, first: Cy SD(NH)-2/cn bw ♂♂ x S G/Cy L^4 ♀♀ and S G/CY L^4 ♂♂ x Cy bw/cn bw ♀♀. Next, F_1 Cy SD/S G ♂♂ x Cy bw/S G ♀♀. The progeny were 24 Star Gull and 14 non Star Gull. Among the latter (selected for S$^+$, since Gull is not well-expressed) at least 6 had a definitely aberrant wing posture - but not extreme Curly. The wings were held out and down, at the base, then curled up as usual. I tested four males of this type by crossing to cn bw ♀♀, 3 were fertile. The results were similar to the original case, totalling 24 Cy ♂♂, 27 Cy ♀♀, 22 Cy bw ♂♂ and 21 Cy bw ♀♀.

The Cy bw chromosome used was received by Dr. Hartl from Dr. Hiraizumi, he reports that it is SM1 with bw at the tip of 2R. The Cy SD(NH)-2 chromosome has the Cy gene without inversions derived by Tinderholt.

It appears that the Cy/Cy homozygote, in this case, is quite viable and fertile. The cause of the non-lethality is unknown. As noted at the Pasadena meeting, I would prefer to leave further work on this to someone specifically interested in gene expression, lethality, etc.

Freedman, C. and S.K. Majumdar. Lafayette College, Easton, Pennsylvania. Effect of calcium cyclamate on the productivity of Drosophila melanogaster.

The wild flies were allowed to breed in instant Drosophila medium containing 1, 3 and 5% calcium cyclamate. The F_1 flies from these media were transferred to vials containing instant medium - one female and one male in each. Ten vials were used for each concentration. The five-day brood system was used and four broods were obtained. Each brood was counted eighteen days after oviposition. The experiment was repeated two times. The average results of this testing are compiled in Table I. The results indicate that the percent of productivity was more or less similar in the first two broods, but a decline starts in the treated

Table I. Effect of calcium cyclamate on the productivity of offspring produced by D. melanogaster females.

Treatment	Brood 1		Brood 2		Brood 3		Brood 4		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Water	171	42.3	108	26.7	82	20.3	43	10.6	404	30.5
1% Cyclamate	160	46.1	102	29.5	75	21.4	10	2.9	347	26.2
3% Cyclamate	152	50.0	94	30.9	46	15.1	12	4.0	304	22.9
5% Cyclamate	99	36.6	125	46.2	40	14.8	6	2.2	270	20.4

group from the third brood. In the fourth brood, 10.6% of the total number of control flies were born as compared to only 2.2% born in the 5% cyclamate group. In addition, the number of flies born in the control medium averaged 404 while the number of flies born in the 5% cyclamate group averaged only 270. The results thus indicate that high percentages of calcium cyclamate adversely affect the production of offspring of Drosophila melanogaster.