Burdette, W. J. and J. S. Yoon. The University of Texas M. D. Anderson Hospital and Tumor Institute, Houston, Texas. Results of treatment with two strains of Rous-sarcoma virus.

Recently we were able to demonstrate that administration of Rous-sarcoma virus was associated with an increased incidence of mutations, chromosomal aberrations, and tumors in Drosophila. Both Bryan and Schmidt-Ruppin strains of Rous-sarcoma virus were compared in a subsequent study. Three-tenths ml of a 50-fold dilution of virus in Drosophila Ringer's solution without Ca was mixed with yeast and added to medium on which two-day-old Drosophila larvae were feeding. Germ cells of males remaining on the virus-yeasted food until imaginal stages were tested for genetic damage. Data are summarized in Table I. Results using the Bryan strain are in agreement with previous findings. On the other hand, the results with Schmidt-Ruppin strain differ very little from the control group. Translocations were not recovered in either group treated. Whether the results are due to differences in concentration or other factors such as the Rous associated viruses is the subject of current additional study.

Table I. Results of Treatment with Bryan and Schmidt-Ruppin Strain of Rous-sarcoma

	Control		Bryan		Schmidt-Ruppin	
Aberration	No./Total	Per cent	No./Total	Per cent	No./Total	Per cent
Sex-linked Lethals	0/ 883	0.00	12/1018	1.58	3/ 1088	0.28
Loss of Y	0/2972	0.00	5/3254	0.15	4/ 5889	0.07
Visible Mutants	0/9394	0.00	3/7484	0.04	1/13995	0.01
Translocations	0/ 790	0.00	0/ 914	0.00	0/ 886	0.00
F_1 Sterility	56/ 876	6.39	143/1057	13.53	98/ 984	9.96

Anderson, Wyatt, W. Yale University, New Haven, Connecticut. Elimination of the sex-ratio X chromosome in experimental populations of Drosophila pseudoobscura.

Eight experimental populations of D. pseudoobscura were set up in 1964 from the F_1 progeny of flies collected in nature. Each female from the collections was isolated in a separate bottle. Twenty female and twenty male progeny from each female from a given locality were used to begin the experimental population representing that locality. Thus, the populations had the same chromosomes, and in the same proportions, as did the samples from nature. The frequencies of the sex-ratio chromosome among the founding members of the populations are given below. Almost all of the offspring produced by a male carrying the sex-ratio X chromosome are female. This "meiotic drive" serves to increase the frequency of the sex-ratio chromosome.

Locality	Initial Frequency of Sex-Ratio Chromosomes (in %)
Okanagan, B.C.	0.0
Gunnison, Colo.	12.3
Hayden Creek, Colo.	8.8
Tucson, Ariz.	20.0
Raton, N.M.	16.0
Austin, Texas	19.7
Davis, Texas	14.9
Sonora, Mexico	25.0

After an initial period of about six months at 16° C, the cages were transferred to 25° C. They remained there for one and a half years. In a census of the chromosomes at the end of the one and a half years at 25° C, a special effort was made to score for the sex-ratio X chromosome. Not a single sex-ratio chromosome was found in the samples of 300 chromosomes from each experimental population. In no population was an equilibrium established. These results confirm the outcome of Wallace's (1948; Evolution 2: 189-217) experiment. Wallace found that the sex-ratio chromosome was eliminated from experimental populations of D. pseudoobscura kept at 25° C.