For other components of fitness such as fertility and fecundity in heterozygous males of the R_1 generation the recombinant chromosomes were usually superior to the mutant non-recombinants and inferior to the wild type non-recombinants.

Ref: Bateman, A. J. Mutation Res. 5 (1968) 243-257.

This work was supported by a grant of the Israel Cancer Association.

Rathie, K. A. University of Sydney, Sydney, Australia. Faster scoring of a quantitative trait of Drosophila melanogaster.

Scoring abdominal bristle number on one sternite in a stock homozygous for the scute' (sc') gene enabled scoring rates of around 500 flies per hour, nearly double those attainable in a comparable wild-type stock. The increased speed is due to sc' lowering abdominal bristle number markedly (see Table).

Response data in the table come from mass selection lines at 20% selection intensity, there being two sc' and three $+^{sc}$ lines, with 50 and 20 pairs of parents respectively. In each case these lines are continuous selection references for other selection treatments. The $+^{sc}$ lines were kept in bottles (5 pairs of parents per bottle), and the sc' lines in vials (1 pair per vial). The sc' lines were scored by the author, and the $+^{sc}$ lines were scored by Drs. L. P. Jones and R. Frankham (who refer to them as "22" lines) in this laboratory under the same conditions that now prevail. Response to selection was nearly linear for both sets of lines.

The sc' population was derived by backcrossing a $y^2sc'w^{i-P}$ stock, obtained from Dr. W. Scowcroft, to the outbred wild-type Canberra strain (Latter 1964) as recurrent parent. The w^{i-P} gene (a partly-revertant allele of white-ivory) was eliminated after the first generation of recombination between the Canberra and mutant genomes. Canberra males and females were used in alternate generations of backcrossing, to avoid progeny-testing to distinguish between $sc+^{sc}$ and $+^{sc}+^{sc}$ females. Thus, of the eight crosses to Canberra, only four allowed recombination between the genomes derived from the Canberra and $y^2sc'w^{i-P}$ populations.

The y^2 gene, retained during backcrossing to Canberra due to its tight linkage to sc', is useful as a marker against contamination, and because it increases contrast between the bristles and the abdomen. No back-mutations from y^2 to $+^y$, and only one from sc' to $+^{sc}$, have been observed during scoring more than 90,000 flies.

Estimates of realized heritability, using the sc' stock, are similar to those using Canberra. Results of hierarchical analyses of heritability appear similar for the two populations, but the study on the sc' strain has not yet been fully analyzed.

I much appreciate the suggestion by Drs. W. Scowcroft and B. D. H. Latter of using a sc' stock in selection for abdominal bristle number.

I am indebted to Drs. L. P. Jones and R. Frankham for permission to cite their selection data.

References: Latter, B. D. H. 1964, Genet. Res. 5: 198-210.

Table. Comparison of some characteristics of Canberra - derived populations with and without the sc' allele.

Scute allele present	Unselected: Mean abdominal bristle number on one sternite*		Unselected: Phenotypic standard deviation		Unselected: Sample size	After 15 generations of mass selection at 20% selection intensity: Mean abdominal bristle number on one sternite*		After 15 generations of mass selection at 20% selection intensity: Average phenotypic standard deviation		After 15 generations of mass selection at 20% selection intensity: Sample size
	Female	Male	Female	Male		Female	Male	Female	Male	
$+^{sc}$	21.62	17.54	2.02	1.93	3000	30.37	24.33	2.07	1.98	3x100
sc'	9.35	6.95	1.73	1.44	2200	16.28	12.62	2.10	1.58	2x250

* Fourth sternite in males, fifth in females.