

3. Moths in yellow and white corn kernels.

An F_1 ear with F_2 seeds segregating 3 yellow : 1 white became mildly infested with moths. There were 45 infested seeds 40 being yellow and only 5 white.

	<u>yellow</u>	<u>white</u>
Actual	40	5
Expected (e)	34	11
Difference (d)	6	6
(d ²)	36	36

$$\begin{aligned} d^2/e & \quad 36/34 = 1.06 \quad 36/11 = 3.27 \\ X^2 & = 4.33 \end{aligned}$$

$$P \text{ (for 1 degree of freedom) } = 0.04 \text{ (approx.)}$$

For the moths to have chosen yellow or white kernels on the basis of chance, the probability should have been higher than 0.05. There is an indication of a possibility that there has been some selectivity. Rather than to assume that females select yellow kernels in preference to white on which to lay eggs, it seems more logical to assume that the survival of moths was better in yellow than in white kernels because of carotene in the yellow.

H. C. Eyster